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THE PATHOLOGY AND TREATMENT OF CLUB-FOOT, ESPECIALLY VARUS AND EQUINO-VARUS,

With Brief Reports of Fifteen Excisions of the Astragalus for Correction of the Deformity.[1]

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CLUB-FOOT is not a product of modern civilization; it existed as far back as our records extend; and it presented the same problems to the early physicians that it does to the surgeon of to-day. It is only our ideas as to its pathology and methods of treatment which have been changed. If, at the present time, we can make a more correct diagnosis and have more successful results, we can justly ascribe our advances to the genius and practical skill of Stromeyer, and preëminently to Lister, under whose teachings operations have become possible the results of which may be justly claimed as among the triumphs of modern surgery.

If we consider the history of the operative treatment of club-foot, we find that it naturally divides into three periods, or stages of development. In ancient medicine such poor results followed cutting operations that they were practically abandoned. During this first period little advance was made, and for over two thousand years the teachings of Hippocrates upon the subject had full sway in the medical world. All operative interference was condemned, and the treatment of the deformity consisted in the use of manipulation and bandages, or fixed apparatus, and hygienic measures. With the simpler forms of club-foot this sufficed, as it still does in many cases to-day; but during this period the graver forms of deformity were regarded as hopeless malformations beyond relief, and were the opprobrium of surgery. Even so recently as 1839, we find Dr. Little stating in the preface to his classical treatise on Club-foot, that "until within three years such cases had been to a considerable extent confined to the care of the instrument-maker."

The second period began about 1834, when Stromeyer published an account of his new method of tenotomy, and directed attention anew to the treatment of club-foot. Although it was left for Stromeyer to make this operation a practicable one by subcutaneous tenotomy, division of the tendo-Achillis had been previously successfully performed by Lorenz, in 1784, and by Petit, of England, in 1779. It had also been successfully performed in 1816, by Delpech, to whom the credit is due of having first indicated the principle, which he was unable to carry out, of keeping the wound secure from contact with the air, in order to obtain satisfactory results.

The third and present period began with the introduction of antiseptic wound treatment, first scientifically formulated by Sir Joseph Lister, less than a score of years ago.

With thorough antisepsis the dangers of inflammation and suppuration may be said to exist no longer. The operator may now safely explore the ankle-joint, divide tendons or fascia by open incision; remove a wedge from the tarsus; extirpate the astragalus, cuboid, or any other portion of the joint; in short, do whatever may be deemed necessary to secure proper redressment of the foot, without fear of the consequences, or causing more reaction, as the rule, than that from a simple incision.

Pathology and Morbid Anatomy.—The pathology of congenital club-foot, in some points, is perhaps still unsettled. In the acquired non-traumatic form it is generally admitted that the majority of cases have their origin in infantile paralysis, although other influences and lesions may likewise cause the deformity.

Regarding the intimate nature or the cause of congenital club-foot, there are good reasons for believing that in most cases, if not in all, the affection in its pathology resembles very closely the infantile form of spinal paralysis, if, indeed, it be not identical with it. In any given case of congenital club-foot, however, we will find in one or more of the muscles or groups of muscles of the leg and foot more or less paresis or actual paralysis, and in other opposing or correlated muscles tonic spasm, or contraction. In consequence of the nerve lesion, the supply of nerve force to the limb is defective, disturbances of nutrition naturally follow, and more or less atrophy results, which even under the most favorable circumstances is never more than partially recovered from.

This may be easily understood when we recall the fact that not only is the growth of muscle and bone impaired, but as Cruveilhier pointed out, even the

[1] Read before the American Surgical Association, May, 1890.

nerves and bloodvessels are imperfectly developed, and are smaller than in the normal limb. Where there is double club-foot, we can say positively that there never will be even fairly well-formed extremities; the legs are much more spindle shaped than in the single form, because the central lesion has been more severe. That cell-life and cell-growth are seriously affected by the original lesion is manifested by the general atrophy, involving all the structures of the foot, leg, and thigh; the circulation is defective, as is demonstrated by the blueness of the skin and the comparative coldness of the extremity. The leg and thigh bones are shorter and of smaller size than on the sound side, and this want of symmetry of the limbs becomes more and more evident as the patient advances to adult age.

It seems only reasonable to assume in explanation of the difference between the various grades of congenital club-foot, that the amount of deformity is dependent upon the extent of the lesion, and also upon the period of intra-uterine life during which the nerve lesion or palsy occurred. If the palsy occurred at an early stage of fœtal development, it is likely to give rise to the more marked forms of tarsal distortion, because the tarsus when cartilaginous is more readily affected by the force exerted by abnormal muscular action. On the contrary, should the paralysis occur toward the close of gestation, the tarsus being already formed, there is less likelihood of malformation or displacement of the bones, and the distortion is mainly in the soft structures.

It is perhaps not possible to determine positively when the intra-uterine paralysis occurs, which results in the formation of any case of club-foot. In some cases we find one or more of the tarsal bones involved in the deformity, in others only the soft structures; and when the bones are displaced and misshapen it seems probable that there must have been long-continued paralysis of some muscles and contraction or spasm of others. If the palsy occurred very early in fœtal life an entire change in the bony joint may result, the principal variation in such a case being likely to involve the position of the astragalus. When the palsy has occurred at a later period of intra-uterine life, the anterior tarsus may become somewhat displaced, and later on, when the os calcis and the astragalus are fairly well ossified (or subsequent to the seventh month), the distortion will probably be found almost entirely in the soft parts. Later on in life we find severe, aggravated, or so-called inveterate forms of varus, or equino-varus, due either to ineffectual or improper treatment, to neglect after operation, or to the entire want of treatment.

The most important features in the pathology of club-foot, therefore, may be said practically to consist in:

1. The period of life at which it occurs.
2. Whether the foot has been used in walking.
3. Whether there has been any previous treatment or unsuccessful operations.

A consideration of these points will naturally indicate the general outline of treatment.

Varieties of Club-foot.—In every case of club-foot we find interference with the function of the ankle and foot, with limitation of the normal range of mobility, usually accompanied with more or less deformity or distortion. When this limitation exists in the antero-posterior plane we have either inversion or eversion of the sole of the foot (talipes varus or valgus); or we may have combinations of both forms (talipes equino-varus or valgus, talipes calcaneo-varus or valgus).

At birth there is one form of club-foot which is of such constant occurrence that it may be regarded as the typical congenital variety; it is varus or equino-varus. In comparison with this all other forms of club-foot are very infrequent.

Treatment.—The more modern treatment of talipes, by the aid of which we are enabled to accomplish so much for its relief, is the direct result of our present methods of wound treatment. I repeat, that it would not have been possible to perform the operations now practised, nor to have improved so generally upon the old methods of treating these deformities, without the aid of antiseptics. We can now, without danger, and in a very short time, accomplish more than could ever have been gained by the former measures, even after months or years of treatment. Therefore, it may safely be asserted that the introduction of the modern wound dressing has completely revolutionized the treatment of the severer forms of talipes, and thus the way has been opened for early and absolute correction of all malpositions, whether congenital or acquired, by operations peculiar to modern surgery.

There still exists a very decided diversity of opinion among surgeons in regard to the treatment of talipes. It is maintained by some, that, with proper management from birth all cases of club-foot, without exception, can be cured, and that even tenotomy is seldom, if ever required. Some advise tenotomy soon after birth, while others condemn tendon-section as totally unjustifiable and premature, until the child is ready to walk and exercise the foot. Even in the more inveterate forms of talipes of young persons or adults, where there has been no treatment, or improper treatment, or neglect after operation, we may state that the operation as yet has not been established. It is most unfortunate that such widely different views should still exist, and it would seem that by this time some well-defined rule for

guidance should have been formulated. We have but to observe the diverse opinions, the array of surgical methods recommended, the great variety of apparatus devised, and the unsatisfactory results, to demonstrate that the question of treatment of club-foot is yet practically unsettled.

From what has been stated regarding the pathology of the deformity, it can readily be understood why there can be no successful plan of routine treatment for club-foot. Each case must be studied by and for itself, the object being to restore the deformed foot to the normal or as near to it as can be done, to retain it in this position, and to restore its function as soon as possible. Excluding all varieties of foot deformity which include valgus and calcaneus, and which give rise to little, if any, difficulty in their treatment, I shall confine myself strictly in this discussion to the two really important varieties of congenital club-foot, namely *varus* and *equino-varus*.

The other varieties of congenital talipes, which include the different forms of valgus and calcaneus, are rarely met with at birth. These deformities always present more serious nerve-lesions than are found in varus and equino-varus. The acquired forms of valgus and calcaneus are also the result of a more marked paresis or general paralytic muscular condition.

Recently, in a case of acquired calcaneus in a boy four years of age, in whom the paralysis occurred at the age of two years, I found the normal limb one inch longer than the deformed one, while the calf and thigh measurements showed a variation of two inches in circumference; the deformed foot was one inch short.

In the treatment of calcaneus and valgus the application of an apparatus, and perhaps tenotomy, is generally sufficient, and rarely will any severe operation upon the tarsus be required.

Confining our remarks, therefore, to the consideration of varus and equino-varus, we may group these deformities in two classes, as follows:

1. The simple, or uncomplicated.
2. The complicated.

1. *Simple, or uncomplicated.* In this division are those cases which, if seen at, or shortly after birth, can be rectified by traction, stretching, massage, electricity, and the use of proper apparatus. In such cases there is little or no change in the shape, or articulation, of the bones of the tarsus. Flexion and extension are nearly normal, the deformity being entirely in the soft parts. Such cases are so amenable to treatment that by the time the child is able to stand, or ready to walk, the sole of the foot can usually without much, if any effort, be placed upon the ground. Although the varus in these cases can always be corrected without operation, there may develop during this period (or it may have existed from birth) a disposition to equinus, so that when the child is ready to walk, if equinus exists, even to a moderate extent, the tendo-Achillis should be divided, but tenotomy should never be performed until this time. Afterward the child should be encouraged to walk, so as to keep the foot well stretched, the ankle motion free, and the ends of the divided tendon well apart. An appropriate, light apparatus, should be worn from early age, and subsequently until all tendency to contraction has disappeared. With careful watching, the result in such cases will usually be a perfect cure.

2. *Complicated.* But again we meet at birth with a form of talipes which I have designated as the "complicated" variety. Cases of this kind will not yield to treatment suited to the mild or uncomplicated form. In such cases we likewise find varus and equinus, and although we can usually overcome the varus, the equinus cannot be corrected; the foot cannot be brought into the right-angle position with the leg. In such it will be found that the normal depression on the dorsum of the foot, just in front of the fibula, is filled with a prominent irregular mass of bone which can be readily outlined, especially if the foot be placed in a position of extreme varus. This projecting bone, arch-shaped, is the astragalus which has been forced out of its normal position of articulation with the os calcis. The tibia and fibula are found more posterior than in the normal condition; in other words, from long tendo-Achillis contraction, exerted probably from an early period of fœtal life, a partial or complete backward dislocation of the tibia and fibula has occurred, while the astragalus, at the same time, is pushed forward from its natural position and is rotated. In this manner the equinus is produced and maintained.

In the deformity just described the leg-bones rest in part or absolutely upon the calcis, forming a new joint, while the displaced astragalus represents a sort of a wedge in front of the ankle which interferes with the joint motion, and effectually prevents flexion of the foot to a right angle.

In these cases the astragalus will be found to be the source of obstruction, and it is principally to this pathological condition that our attention must be directed.

It is beyond question, I am quite confident, that a large proportion of the unsuccessful results from operations in talipes, and the subsequent occurrence of the inveterate or severe forms of foot-deformity, are due to this condition not having been recognized or thoroughly appreciated. I am also inclined to believe that tarsotomy, tarsectomy, and the "open incision," so-called, will, if this view be correct, rarely, if ever, be required in the congenital form of equino-varus which I have de-

scribed. I have on a number of occasions in times past operated on such by tarsectomy and open incision, and although improvement has followed, yet the operation has failed to overcome completely the equinus; and subsequently I have been compelled to remove the astragalus in order to correct the deformity, to bring the foot properly on the ground, and to secure proper flexion of the joint. In all of the cases of the congenital equinus in which I have excised the astragalus, the removed bone was so altered from the normal as to be unrecognizable.

I recently sent two of these bones to Professor Leidy for examination, with a note asking him to identify them, to which he replied as follows:

"The two specimens of bone, submitted to my examination a few days since, are so altered from the normal form that I utterly failed to recognize them as being the astragalus."

Under these circumstances, it is not possible to force the astragalus between the malleoli because of its altered shape and fixed position. In other words, the altered or abnormal condition has become the normal one, and it is not possible to reconstruct the articulation. When the condition just described is present, nothing will relieve the deformity except the removal of the astragalus. This displacement of the astragalus forward, and of the tibia and fibula backward, appears to be the result of traction of the gastrocnemius, with relative weakness of the anterior muscles, having had its origin at an early period of fœtal development before the tarsal bones were ossified and their articular surfaces or facets fully formed.

The removal of the astragalus in no wise shortens the limb, because the tibia and fibula in these cases do not articulate with this bone, but with the os calcis.

We may now consider those cases of aggravated or so-called inveterate deformities, whether congenital or acquired, which have resulted from improper treatment, or from neglect after operation, or which have not had any treatment at all.

Inveterate Club-foot.—Cases of congenital or acquired equinus and equino-varus which have never been treated readily become aggravated by walking, partly by the action of the stronger muscles which are constantly twisting the foot inward, but more particularly on account of the weight of the body. The tarsus becomes more and more misshapen, the inversion increases, the sole of the foot is upturned, and soon the patient walks on the cuboid, or even on the dorsal region, where a dense bursa forms. Gradually the tarsus becomes more and more solid and unyielding, while the foot and ankle are deprived of flexion and extension.

Whether the deformity is congenital or acquired, the object will be to rectify effectually the malposition. The correction should be so complete that no disposition to contraction can be observed at the time of the operation, and I would lay down the rule that all interfering structures, soft parts or bone, whether the tarsus is considered as a whole or as individual bones, should be sectioned or excised. It will probably be found, as I have shown, that the astragalus is very commonly the obstruction to rectification in the congenital form.

When tarsectomy is proposed, it should be clearly demonstrated that the distortion is due to the anterior tarsus alone, and not to dislocation of the astragalus. If there is equinus with varus, and it is found impossible to flex the foot to a right angle, or if the ankle motion is greatly restricted, and if, at the same time, the region anterior to the fibula is occupied by the mass of bone already referred to, it is certain that the astragalus is prominently concerned in the deformity. In such cases, if the astragalus is removed the tarsus will unfold by moderate manual force, and the foot can be brought into good position; for it will be found that the space gained by removal of the astragalus will permit, to a very remarkable degree, a replacement of the anterior tarsus. It is true that occasionally there is so great fore-shortening of the skin and deep soft structures on the inner side of the foot as to interfere with the unfolding of the foot and its being brought into normal shape; and if this condition be found, it may be necessary to also divide very freely the tissues on the inner side. It should be remembered, however, that this open wound may be of considerable size, and must contract in its final healing, and so dispose to the re-formation of the varus. To obviate this, I have suggested and successfully made a plastic operation, by turning upon the wound a flap of integument from the dorsum of the foot.

The treatment of talipes varus and of equino-varus, congenital or acquired, simple, complicated, or inveterate, we may briefly sum up as follows:

1. *Simple or uncomplicated* congenital varus and equino-varus can be cured without operation other than an occasional tenotomy of the tendo-Achillis.

2. *Complicated* congenital equino-varus which is associated with dislocation or displacement forward of the astragalus, requires excision of this bone and tenotomy of the tendo-Achillis.

3. *Mild, severe, or inveterate* talipes, whether congenital or acquired, which has never been treated, or has been neglected after treatment, or improperly operated upon, may require, according to the deformity, tenotomy, excision of the astragalus or cuboid, tarsectomy or open incision, or combinations of these operations.

Operation for Excision of the Astragalus.—The operation presents no special difficulty. The

Esmarch bandage should be used. The astragalus being, in this case, merely subcutaneous, it is readily exposed by an incision, which should include the most prominent part of the bone, extending from the end of the external malleolus in a straight or slightly curved line to the base of the metatarsal bone of the middle toe. The knife is then carried around the circumference of the bone and the attachments severed, when the bone may be grasped and lifted with bone-forceps; the sub-astragaloid ligament and other tissues can be divided either with the knife, curved scissors, or blunt-hook knife devised by Lund. The tendo-Achillis should always be divided. The wound is brought together with interrupted gut-suture, and a few strands of the same are carried to the bottom of the wound to insure drainage. Before, during, and after the operation rigid antiseptic measures should be used. Immediately after the operation the foot should be capable of being placed in an easy, natural position without any tension. If there should be the slightest disposition in the foot to reassume an abnormal position, search should be made for all contracted tissues, and such should be sectioned. The line of sutures is covered with protective, over which is applied the bichloride-gauze dressing, or the mercury and zinc moist gauze; this is held in position by a wet sublimate-gauze bandage, leaving the extreme ends of the toes exposed. Antiseptic cotton, another wet, and then a dry bandage completes the dressing.

A posterior, well-padded, right-angle, flat, tin splint is then applied. Care should be taken to have the heel well down and the deformity *slightly* over-corrected. If there is no soiling of the dressings they need not be disturbed for several weeks. Usually at the end of a month the wound is firmly closed, and shortly after this, or so soon as the child makes any effort, he should be encouraged to walk, when the tin splint must make way for the ordinary talipes walking-shoe.

Tarsectomy.—That no less than eleven different forms of tarsectomy have been described for the cure of club-foot would seem to show that surgeons have not found any one of these operations giving perfectly satisfactory results. The very fact that relapses have occurred after the most carefully conducted tarsectomies, shows that probably the pathology of the deformity has not been properly understood. A year ago a boy four years of age was brought to me with double equino-varus, a typical congenital case to which no treatment had ever been directed. I performed tarsectomy, made the open incision, divided the anterior and posterior tibial tendons, the plantar fascia and the tendo-Achillis in each foot. Although a fairly satisfactory result was obtained, yet the feet could not be planted squarely on the ground when the child stood upright, nor could they be brought to a right angle with the leg. I observed that flexion was from the first markedly restricted, but hoped that in time this would be overcome.

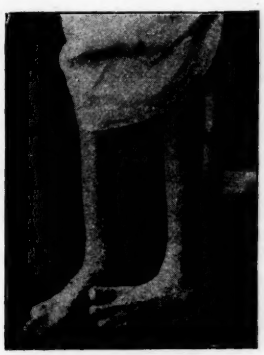
The boy was again brought to me a year later (in March last) with marked equino-varus of both feet with great contraction on the inner side where the open incision was made. There was total inability to flex the feet to a right angle, and the obstruction to ankle motion was found upon examination to be due to a displaced astragalus. At the time of the first operation the pathological conditions which I now believe prevail in all cases of congenital equino-varus of the complicated form were not so fully recognized, and I can understand why the tarsectomies were of but little, if any, benefit. Finding that another operation would be necessary, I removed the astragalus in each foot with entirely satisfactory results.

I am, therefore, quite prepared, after considerable experience, to believe that tarsectomy and the open incision, except possibly in the inveterate deformities of more mature years or in adults, will seldom if ever be required.

To illustrate the foregoing principles, I submit the following notes of cases in which the treatment by excision of the astragalus gave results that could be attained by no other method with which I am acquainted.

CASE I. *Congenital equino-varus; unsuccessful operations in early life; excision of the astragalus; cure.*—Thomas C., aged fourteen, was admitted to the Orthopædic Hospital June 12, 1889. He had been operated upon for club-foot when nine months

FIG. 1.



Case I. Congenital equino-varus. Unsuccessful operation in early life.

old by general tenotomy, and had worn braces for several years without benefit. His condition was as follows: Left foot, congenital equino-varus with great outward displacement and rotation of astragalus, its fibular articular process presenting subcu-

taneously in the central plane of the leg. Considerable atrophy. Right foot normal, three-fourths of an inch longer than the left. (Fig- 1.)

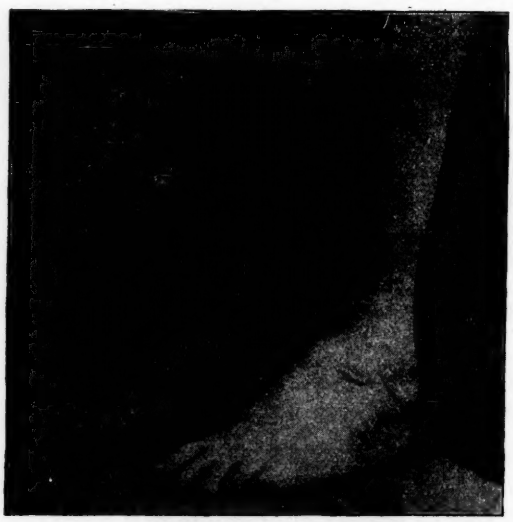
July 16, the astragalus was excised through a curvilinear incision extending from half an inch above the external malleolus to the base of the metatarsal bone of the ring toe. The bone had to be split with cutting pliers before the sub-astragaloid ligament could be divided; otherwise the operation was easy. Tendo-Achillis divided. Catgut drain, permanent antiseptic dressing, and right-angle tin splint were used.

August 11, twenty-six days after the operation, dressed for the first time; foot in excellent position and condition; wound healed, save a very superficial ulcer.

13th. Wound entirely cicatrized.

28th. Brace applied, and he was able to walk; the foot presented no tenderness.

FIG. 2.



Case I. Condition, May, 1890.

April, 1890. Good ankle-motion; excellent use of foot and limb; position normal. (Fig. 2.)

CASE II. *Congenital equino-varus (double); unsuccessful operation in infancy; excision of left astragalus; cured.*—George H., aged three years, was admitted to the Orthopædic Hospital, August 21, 1889.

Right foot: congenital equino-varus, operated upon in infancy and tendons divided, but foot greatly deformed at present.

Left foot: also operated on previously, but in much worse condition, the astragalus being rotated through nearly half a circle with its tibial articulating surface subcutaneous.

August 22. Left astragalus removed entire, without difficulty, through an incision extending in a curvilinear direction from just above the external malleolus to the base of the metatarsal bone of the ring toe. Catgut drain, permanent dressing, and right-angle tin splint.

Right foot: Open incision with extensive division of tendons.

September 3. Feet dressed. Right foot: wound closed. Left foot: slight superficial wound.

October 5. Walks well; good motion; position of foot a right angle.

May, 1890. Left foot in excellent position. Right foot, some disposition to recurrence of varus; excision of astragalus advised, and will soon be performed.

CASE III. *Congenital equino-varus; excision of astragalus; cured.*—Alex. G., aged two and a half years, was admitted to the Orthopædic Hospital on September 26, 1889, with severe left equino-varus, the astragalus markedly rotated, and its tibial articulating surface subcutaneous.

September 27. The usual incision was made from the external malleolus forward, and the astragalus removed. The wound was dressed in the usual manner with catgut drain, permanent dressing, and a right-angle tin splint.

November 3. Dressed; perfect cure.

April, 1890. Present condition: position excellent; walks without lameness.

CASE IV. *Congenital equino-varus (double); unsuccessfully treated by manipulation and stretching; excision of astragalus from each foot; cured.*—Phœbe A. N., from Milton, Penna., came under care, February, 1889, when five months old. The deformity was very marked, and the tarsus rigid. Under ether the feet were thoroughly stretched—neither foot, however, could be brought to a right angle with the leg—tin splints were applied, removed each day, and massage and traction used.

April 10. Stretched under ether, and applied apparatus.

October 1, 1889. No special benefit from previous treatment; upon examination astragalus of each foot found displaced forward and rotated. Operation at once performed; the bones were excised through the usual incision. Two dressings. Three weeks subsequently the child was able to stand; and in ten weeks subsequent to operation was walking without difficulty.

April, 1890. Position of feet good; result excellent; walks with freedom.

CASE V. *Congenital equino-varus (double); unsuccessful treatment by tenotomy; subsequently excision of astragalus from each foot; cured.*—Leon H., aged two months, from Woodstown, N. J., was brought to the Orthopædic Hospital October 20, 1887, with marked equino-varus; both feet involved to about the same extent. Ordered manipulation, massage, and apparatus.

March 1, 1888. Condition about the same; marked equinus; tenotomy of tendo-Achillis and stretching; apparatus to be continued.

October 24, 1889. Deformity has increased; astragaloid equinus very marked; flexion of feet greatly hindered by the displaced astragalus. Operation performed this day, and the astragalus excised from each foot, with perfect rectification of position and motion.

March, 1890. In every respect the result has been most satisfactory; flexion and extension, and position of the feet excellent.

CASE VI. *Congenital talipes equino-varus; unsuccessfully treated by massage and apparatus for three years; excurvation of the knee; astragaloid equinus; excision of astragalus; cured.*—Alvin W., aged four years, no family history of deformity, was brought to the Orthopædic Hospital in February, 1886. He was then but a few months old; there was marked equino-varus of the right foot; a weak ankle and slight valgus of left foot. Traction, massage, and an apparatus were ordered.

February 20, 1890. Returned to hospital with marked equino-varus, and unable to flex the foot; astragalus displaced; tendo-Achillis rigid. The child, finding it impossible to place the sole of the foot on the ground, had gradually developed excurvation of the knee, which allowed the heel to come down.

22d. Astragalus was removed by the usual incision; tendo-Achillis divided; gut ligature and drainage. Dressed on the fifth and again on the twenty-third day, when the union was firm, with perfect position and good motion.

April, 1890. Result most satisfactory, both as regards position and good motion.

CASE VII. *Congenital equino-varus (double); stretching; excision of astragalus from each foot.*—Raymond J. P., aged fifteen months; has been able to walk for several weeks. No treatment has ever been attempted except daily stretching. Came under my care March 22, 1890.

Present condition: right foot, varus and equinus marked. Impossible to flex either foot to right angle. Astragalus displaced and subcutaneous. Left foot, more severe equino-varus; otherwise, condition the same as in other foot.

March 22. Excision of astragalus and division of tendo-Achillis in each foot. Feet brought to perfect position and placed upon right-angle tin splints.

Present condition most satisfactory.

CASE VIII. *Congenital talipes equino-varus (double); tarsectomy and open incision; failure. Second operation one year later; astragalus excised from each foot; cured.*

Wolf S., aged five years, was admitted into the Orthopædic Hospital in February, 1889, with a very marked deformity of both feet. (Fig. 3.)

March 10. Tarsectomy and open incision, division of tendo-Achillis, of anterior and posterior tibial tendons and plantar fascia.

May 1. Discharged in apparently fair condition of improvement; directed to wear braces and to continue stretching.

March 20, 1890. Re-admitted with aggravated equino-varus. Tarsus rigid; astragalus evidently the cause of the deformity; very limited amount of joint-flexion; unable to stand alone.

22d. Excision of the astragalus from each foot. The bones were found quite anterior to the tibia, and rotated. The usual incision, crossing the most prominent subcutaneous part of the astragalus, was made; gut drain; right-angle tin splints. After the excision the feet could, without the least difficulty, be placed at a right angle with the leg.

FIG. 3.

Case VIII. Double congenital equino-varus, March 1, 1889. No previous treatment.

April 26. Position of the feet perfect; ankle-motion good; cure perfect. (Fig. 4.)

May 10. Walking without apparatus and with ordinary shoes; limbs straight; feet turn out.

FIG. 4.

Case VIII. Condition after excision of each astragalus. Feet at right-angle to legs.

CASE IX. *Congenital talipes equino-varus; manipulation, stretching, and apparatus; no improvement; excision of astragalus; cure.*

Harry W., aged sixteen years, was admitted to the Orthopædic Hospital, April 14, 1890. The right limb normal. Left, severe equino-varus and marked atrophy of entire limb; for many years has been walking without any apparatus. Ankle very rigid; general atrophy of the limb. The right thigh measures in circumference fifteen and one-half inches; calf, eleven and one-half inches.

The left thigh measures ten inches; calf, eight and one-half inches. The left foot is much shorter than the right.

April 19. Astragalus excised through usual incision; tendo-Achillis divided; foot placed without tension in normal position; usual dressing; catgut drain; right-angle tin splint.

May 10. Dressed; position excellent; superficial ulcer.

CASE X. *Congenital equino-varus (double); unsuccessful operations in infancy; deformity excessive; excision of astragalus, cuboid, cuneiform, and part of the scaphoid.*

Dorothea R., aged seven, from Towanda, Pa., was admitted to the Orthopædic Hospital, April 22, 1890. General health good; no family history of deformity; weight, forty-six pounds. When five months old was operated upon by general tenotomy, stretching, and fixed dressings. The feet became inflamed and ulcerated; all treatment was abandoned; contractions increased; subsequently apparatus was applied and worn for some months. During the past three years has had no treatment.

Condition on admission.—The thighs, legs, and feet markedly atrophied and spindle-shaped; thigh- and leg-bones small; feet more solid and deformed than I have ever known at such an age. Patient walks on the cuboid bones; great contraction of all the soft parts, including the sole and inner side; ankle-joints apparently ankylosed.

April 26. Right foot; the usual incision made for astragalus excision. The tarsus was found so dense and distorted and the bones so firmly wedged that it was with the greatest difficulty that the articulations could be identified.

The astragalus, cuboid, external cuneiform, and a portion of the scaphoid required removal, in order to bring the foot to a right angle with the leg. The tendo-Achillis was divided; likewise the plantar fascia and the flexor tendons of all the toes. The wasting and contraction of the soft parts on the inner side and the sole of the foot presented great impediment to rectification. The left foot required exactly the same treatment. The wound was closed by interrupted gut-sutures, drained by a few strands of same material, and dressed in the usual manner. The feet were placed upon right-angle, well-padded tin splints.

May 12. Doing well; has not been dressed since the operation; feet in excellent position.

Résumé.—The records of these cases present fifteen excisions of the astragalus for congenital equino-varus upon ten patients, all males with the exception of one. Five had been unsuccessfully treated in infancy or early life by tenotomy, tarsectomy, or otherwise; in four cases both feet were operated upon at the same time. Four of the patients were under two years; the others were, respectively, three, four, six, seven, fourteen, and sixteen years old. The line of incision in the operations extended from half an inch or so above the external malleolus to near the base of the metatarsal bone of the fourth or ring toe, crossing the most prominent part of the astragalus; the tendo-Achillis was always sectioned. No vessel required ligation. The peronei tendons were not involved in the operation. A few strands of catgut were inserted in the wound to secure drainage. Strict antiseptic precautions were observed before, during, and after the operation. The limb was placed upon a right-angle tin splint and kept elevated for a day or two. Immediate union followed; the primary dressings were not disturbed before the end of the third, generally in the fourth, week.

Although, perhaps, sufficient time has not elapsed to give a positive opinion as to all of these cases, yet, so far, the results have been much more satisfactory than in any former operations for similar deformities in my experience.

I believe that we have more reason to expect permanent correction of the deformity after the operation of excision of the astragalus, from the fact that the cause of the obstruction is removed, so that the foot can be brought to a right angle and the whole of the sole of the foot can be normally placed upon the ground when the patient stands. The motion of the joint is also increased by the removal of the bony wedge which so seriously interferes with flexion. There has not been in any case a tendency to ankylosis nor any tenderness or want of strength in the ankle as a result of the operation. If I have correctly appreciated the pathology of these cases, I think that we are warranted in claiming that, by the means proposed, better and more permanent results will be obtained than by any other method which has been devised for the relief of these complicated forms of club-foot.

It is well, however, to bear in mind that no matter what form of operation is performed for the correction of talipes, nor how perfect may be the immediate result, a disposition to recurrence of the deformity may continue for a long time from the persistent unequal muscular action, which demands watchful care to insure a permanent successful result.

THE RELATION OF PERIPHERAL IRRITATION TO DISEASE; CONSIDERED FROM A THERAPEUTIC STANDPOINT.[1]

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THE most important element in the discussion of this question is the influence of its decision upon our therapeutic procedures.

Whether peripheral irritations be etiological factors by reason of sympathetic effect, as was formerly

[1] Discussion at stated meeting of New York Academy of Medicine, May 1, 1890.

taught, or, as a more refined pathology and more scientific inquiry into pathological processes claim to have ascertained, it be due to reflex agencies acting through the spinal cord, the chief aim of our therapeutic endeavors must be at the point of irritation. The removal of the source of peripheral irritation becomes imperative. If, on the other hand, as Dr. M. Allen Starr has correctly pointed out and as the general practitioner but too often has occasion to observe after much bootless attacking of peripheral disturbing causes by specialists, many so-called neuroses are really but the manifestations of a slight or serious defect of control by the higher centres due to their impaired nutrition and consequent impaired activity, the course of the medical attendant must be clear.

Who shall decide these different problems which now more than ever press for solution?

The method of arranging a symposium on the great medical questions of the day must be of advantage. It brings out prominently the elements of each question as viewed from different standpoints, if the essayists are selected for the diversity as well as the honesty of their respective views.

It was a wise suggestion, too, of Dr. Jacobi to afford the general practitioner a hearing on the subject offered for discussion, for he stands, as it were, upon neutral ground, watching eagerly the friendly contests of his colleagues and co-laborers, the specialists, and appropriating the wheat as they sift it from the abundant chaff by the threshing of contending views.

Therapeutic questions have ever possessed a fascination for me. In the course of the past thirty years it has not infrequently been my privilege to observe the budding forth of plausible theories, to watch them as they developed into lusty plants, only to see them blighted when the clear light of strict clinical test beat upon them.

When the lamented Hack called the attention of the profession to the attractive theory of reflex neuroses traceable to the nose, I was, although he offered us such positive clinical illustrations, somewhat reluctant in recognizing the validity of his claim. Some of the arguments which were brought against the idea of sensitive areas in the nose as the cause of reflex troubles of diverse and utterly incompatible characters confirmed the therapeutic scepticism which is the natural outgrowth of advancing years, and the doubts thus aroused were somewhat strengthened by the enthusiasm of the author. But a case presented itself shortly after reading Hack's original pamphlet which enlisted my interest. A man aged twenty-four years was brought to me by Dr. L. Peiser, with the following history:

He had been complaining for one year of a "sticking pain on the right side of the neck" about the apex of the carotid triangle. This pain was so severe at times that it deprived him of sleep. He also suffered from a dry cough and, what annoyed him more, violent attacks of sneezing ten or twelve times in succession, recurring four or five times a day. His acquaintances twitted him because he "sneezed like a cat." His appearance was worn and dull. The right lower turbinated covering was cavernous and doughy, and touching the septum which presented numerous sensitive spots. The lower turbinated on the left side also touched the septum and was sensitive but not doughy. The uvula was elongated. Posterior rhinoscopy revealed spongy hypertrophies on the lower turbinated. The right anterior turbinated swelling was thoroughly cauterized with the galvano-caustic point, under cocaine. Ten days later he claimed an improvement; two sensitive spots on the septum were now cauterized. Six days later pains in the neck had disappeared. Cough continuing, a portion of the elongated uvula was cut off and the left lower turbinated was cauterized. After two more cauterizations of sensitive spots on the septum, his nasal fossæ were clear and free. Sneezing, cough, and pain subsided.

The attacks of sneezing in this case were probably due to mechanical irritation, for, as Hack has shown, and as I have frequently observed, the "erectile" turbinated coverings are subject to enlargement and to diminution by mental and physical causes. The cough, too, was probably due to the elongated uvula. But the pain in the neck was probably reflex.

It is just as important to adopt local treatment, whether the peripheral irritation produces symptoms through mechanical or through reflex channels. But it is well to differentiate these conditions for the sake of scientific accuracy, as was done in this case. The first positive case which removed my scepticism on the reflex influence of nasal peripheral irritation is a cure of true epilepsy, the only one which has ever occurred under my observation:

A. K., aged sixteen years, a robust boy, had been suffering from distinct attacks of *grand mal* since the summer of 1884.

The free use of bromide, by my friend, the late Dr. Wm. Frothingham, diminished the number of attacks and finally gave immunity for one year. But they returned with greater frequency, and continued despite increased quantities of bromide. Dr. Frothingham having referred the case to me on April 1, 1886, it occurred to me that an enchondroma on the left side of the anterior portion of the septum, which filled the entire fossa in front, forcing the ala far beyond its normal line, might be a peripheral irritant bearing etiological relations to the epilepsy. After failure with the galvano-cautery, as advised by Woakes, I removed the entire growth with a Bosworth saw. The bromides were continued until September, 1889. He had an attack a week after the operation, but since then he has

been entirely exempt, although during the past seven months he has taken no bromides.

An immunity from attacks for four years may probably be regarded as a recovery from the disease. Similar cases are on record in recent literature, the most recent addition being six cases of epilepsy reported by Schneider.[1] These cases cured, after the failure of active bromide treatment, by removal of pathological conditions in the nose, furnish interesting reading to those who are sceptical regarding the influence of peripheral irritation in disease.

A disease like epilepsy, in the presence of which we stand almost helpless, demands the utmost scrutiny of search for possible etiological factors.

There are a sufficient number of cases recorded by reliable observers to warrant us in adding the nose to the field of possible points of reflex irritation. Empirical though such treatment may be and probably inexplicable upon strictly scientific principles, it behooves us to remove all pronounced abnormal conditions existing in the nose, *as an auxiliary therapeutic measure.*

With regard to asthma, migraine, trigeminal neuralgia, and minor nervous affections, the conditions are different.

The nose presents a field for thorough study of the question at issue, and it should be utilized to the fullest extent. Unlike the ovaries and urethra or other internal organs, we may subject it to tests which are impossible in these organs. It is not difficult to ascertain the presence of sensitive areas in the nose, even if the patient's attention has not been directed to them by actual symptoms. If irritation by the probe produces the paroxysm of migraine, asthma, or neuralgia, we have evidence that can be obtained from no other organ. And if in addition to this, we succeed in removing the attack, either artificially or spontaneously produced, by complete cocaine anæsthesia of the sensitive areas, the etiological connection is demonstrated beyond a doubt, and the treatment is clear. In a recent paper on asthma, Professor Dielafoy of Paris, recommended a cocaine application to the nose as the first step in the treatment. This is a wise suggestion, for if, as our *confrères*, the rhinologists, claim with some show of reason, nasal irritation may be the starting-point of an asthmatic paroxysm, the latter must surely be abated by inhibiting the sensitiveness of these spots. But here an error may creep in. It will not suffice simply to brush the nose with a two-per-cent. solution of cocaine. A bulb-pointed syringe or atomizer with numerous fine openings introduced just within the nostrils, would distribute half a drachm of a four-per-cent. solution of cocaine over the accessible portion of the nasal fossa. If the patient will press the bulb or piston of the syringe during expiration, hold his head downward and avoid swallowing the fluid, no possible harm can ensue, while complete anæsthesia of the entire nasal tract would be attained. If an attack of asthma or neuralgia be averted by such anæsthesia the proof is clear. How many of our enthusiastic friends apply such a test or any other test in these cases? Except the *post hoc ergo propter hoc*, than which none is at times more misleading, we have in these tests a perfectly available method, which I trust will be more frequently resorted to, of discovering the actual connection between peripheral irritation and disease at a distance.

I am of the opinion that the so-called peripheral irritations should only be treated as etiological factors, if they manifest themselves to the patient.

This holds good, however, of all organs except the nose. The latter is, as the epithelium covering its lining mucous membrane indicates, a respiratory as well as an olfactory organ. As an olfactory organ its function may be greatly disturbed or entirely lost without actual damage to the economy. Even as a respiratory organ its functions may be interfered with, without much embarrassment, because the mouth furnishes a vicarious channel for the entrance of air; hence only when very positive stenosis exists does the system rebel and call the patient's attention to its presence, by embarrassment of the respiration or other symptoms. Sensitive areas, swollen and cavernous turbinated coverings, polypi, etc., may exist within the nose, as the cases I have cited witness, without being sufficiently recognized by the patient to call the physician's attention to them. It therefore becomes our duty to search for these abnormal conditions in all those functional nervous disturbances which have been reported as possibly connected with nasal irritation. The tests I have referred to are then readily applied, and the treatment is rendered more effective and less difficult than in many other disturbances. A word of warning may, however, be not inopportune at this point. Operations on the nose are not so free from danger as they have often been represented by some enthusiastic specialists. I am personally cognizant of two cases, in which deviations of the septum were removed by the saw; one with serious, the other with fatal results. The first, operated on while apparently in good health, by one of the most noted rhinologists of the present time, suffered from hæmorrhages and septic fever, which seemed to be the starting-point of a state of cachexia lasting over a year, during which a malignant and fatal disease of the stomach developed. The second case, also in good health when operated on by one of our most active septum-sawers, whose skill cannot be impugned, awoke the night succeeding the operation with vomiting of blood and with

[1] Berliner klin. Wochenschrift, October 28, 1889.

epistaxis. He fell ill, and was attended for three weeks by no less than eleven physicians and surgeons. When I took charge of him, the gentleman who had operated gave an obscure history in the patient of feeble heart, loss of appetite, and great apprehension of a fatal issue. I found the urine had been reduced below 20 ounces daily, without microscopic or other evidence of renal disease. An unfavorable prognosis was given. Dr. A. Jacobi, who had previously seen the patient, was called in consultation. The patient died thirty-six hours after I first saw him, simply from exhaustion due to loss of blood and subsequent inanition. A post-mortem discovered no trace of organic disease. There is no doubt in my mind that this death was directly due to the operation for deviated septum, which had been properly and skilfully done, *for relief of embarrassment to respiration.*

When you are told, by our friends, the rhinologists, that the operation for deviated septum, if skilfully performed, is free from danger, bear in mind this testimony of a general practitioner, and let it not be done except for good cause.

In other organs the difficulty of discovering points of irritation is not so marked as in the nose, because interference with their functions becomes more or less burthensome, and in a large proportion of cases calls for remedy.

The eye, for instance, does not brook infringement upon its normal condition without protest—a protest which may or may not be heeded, according to the intelligence of the patient and his capacity for resisting encroachments upon normal functions. Here it is important to inquire cautiously for symptoms, lest by leading questions we be led astray. But here too the connections, if such exist, between peripheral irritation and the existing functional nervous disturbance may be traced, and it should be clearly traced ere the diagnosis is regarded as exact.

Surely nothing is easier for the general practitioner than the inquiry for eye-strain in connection with or independent of the attacks whose causative relations he is endeavoring to fathom. And, if he is in doubt, nothing is easier than to refer such a case to his friend the ophthalmologist. This has been my constant practice since it first suggested itself in my own case, which may be of interest in this connection. Up to within nine years ago I was a martyr to migraine, suffering one or more attacks weekly, which disabled me from work. Although I was conscious of a difference in the refraction of my eyes, I was assured by two eminent oculists that the difficulty was a simple myopia affecting the right eye, with which it was not advisable to meddle. On coming to New York and taking a course of instruction on the eye and ear, I discovered a double astigmatism. Dr. R. H. Derby was kind enough to make a thorough examination of the refraction under homatropine, by which he discovered a high degree of myopic astigmatism in the right and a minor degree in the left eye. The correction of the error of refraction not only endowed me with perfect vision, but the agreeable discovery that the migraine was removed was an additional and unexpected result. Not a single attack has occurred since the glasses were adjusted.

If we do not succeed in relieving the patient of the functional nervous disease for which the ophthalmic examination was advised, we may at least be content that no damage has been inflicted by the correction of any error of refraction that may have caused distress from eye-strain.

This is quite a different matter, however, from the mutilations which have been recently recommended by some of our *confrères*. The mournful record of these mutilated eyes and disappointed patients is indeed, as has been remarked by another, a sad chapter in the history of this subject. The fact that the novel view that "asthenopia," from which nervous diseases of all kinds are now said to result, "is chiefly dependent upon muscular insufficiencies, and is generally to be relieved by operations upon these muscles," is entertained and urged by only a very small number of men who stand alone in this country, and that this idea has not received the slightest recognition in Europe, where the opportunities for testing its correctness are so abundant, appeals to the general practitioner as a cogent reason against its acceptance. The Neurological Society of this city has fairly weighed the arguments advanced by these innovators, and now Dr. Roosa has added one of those valuable practical observations, of which he is so admirable an adept, which must remove the question from the arena of discussion. He has shown us that, among over one hundred healthy persons, 84 per cent. presented a want of muscular equilibrium, so-called heterophoria, and that, moreover, a great deal depends, as has been well-known since Graefe's time, upon uncorrected astigmatism. I was somewhat surprised that Dr. Roosa deemed the refutation of this novel and unsubstantiated theory a cause worthy of his steel. But he has offered us a clinching argument which must lay this all too lively ghost to everlasting rest.

From a therapeutic standpoint the eye as a source of peripheral irritation demands as careful and painstaking investigation as the nose. I am convinced that both promise satisfactory therapeutic results. But our efforts must not be indiscriminate. *Nil nocuisse* should be our motto so long as uncertainty haunts our course. Fortunately we have in these organs means for ascertaining positively the existence of points of peripheral irritation and of reme-

dying them harmlessly. I plead for the more general adoption of these tests before active treatment is adopted.

The sexual organs as sources of peripheral irritation have been ably discussed from the gynecological standpoint.

From a therapeutic standpoint I desire simply to plead for the same principles that I have enunciated regarding the eye and nose. Here, however, we meet greater difficulties. The male genital organs are more accessible to investigation and treatment than those of the opposite sex. Alexander Peyer, our own Otis, and many others have studied this subject from the specialist's point of view. They have offered us clinical data which cannot be controverted. But let us proceed cautiously, and always bear in mind the motto, "*Nil nocuisse.*" Mutilation of these important organs must be avoided, unless the existence of a point of peripheral irritation is clearly established. We have no tests here as we have in the nose and eye, so every other means must be exhausted before local surgical treatment is resorted to. Another point of therapeutic importance is to be remembered, viz., the danger of directing the patient's attention to the sexual organs as a possible cause of his functional troubles. Such a course is almost certain to increase the latter.

The existence of peripheral irritation in the utero-ovarian system has long been a vexed question. While I am convinced that a lacerated cervix is frequently an etiological factor of pronounced type, and while I regard the removal of the local pathological conditions connected with the latter as a *sine qua non* to the improvement of the health of many suffering women, I am also convinced that these lesions rarely if ever give rise to the reflex functional nervous troubles that have been attributed to them. The latter may almost invariably be traced to conditions of general ill health and anæmia, resulting from the local processes which give rise to muco-purulent discharges, to infection from raw surfaces on the cervix, and to interference by pain with comfortable locomotion, rather than to the pressure of cicatricial plugs, etc. These views I have fully set forth in a paper on the therapeutic significance of the cervical follicles,[1] and I must now be content with this simple reference to a subject which has given rise to more acrimonious and bootless discussion than even the insufficiencies of the ocular muscles.

The idea of the connection of ovarian irritation with functional nervous diseases is coeval with the history of medicine. Since gynecology has become a full-fledged offspring of medicine this question has persistently clamored for solution. There has been so wide a schism in the ranks of the special worker in this branch, a schism which is happily narrowing to a more conservative point in recent years, that a general practitioner may well be excused from expressing his views, except to urge respectfully the warning, "*Nil nocuisse.*" I have searched the literature of this subject industriously for the clinical proof that the removal of the uterine appendages has been instrumental in removing pronounced functional nervous diseases. While I am convinced that the ablation of *diseased* ovaries and tubes must and does contribute to the improvement of health in some women by removing foci of infection, distress, and pain, and by removing a barrier to exercise and to the pursuit of the duties of life, I cannot bring myself to the belief that the removal of ovaries or tubes not presenting palpable and well-defined pathological changes is ever called for; and I deem such a procedure an outrageous violation of the highest aims of our calling, which demands the condemnation of every decent physician.

There are many other points of peripheral irritation whose relation to disease demands discussion. As one speaker has referred somewhat contemptuously to peripheral irritation as productive of nervous diseases, it may be well to mention that we have the authority of Professor Thomsen, of Berlin, for the statement that even serious psychoses may be traced to peripheral irritation. In the *Charité Annalen* for 1888 he gives the histories of five cases of reflex psychoses resulting from wounds of the head, with concentric narrowing of the field of vision and unilateral hallucinations; and two other cases in which scars in the periphery produced epileptic attacks, and later also psychoses, which were cured by excision of the scars. All these patients suffered anæsthesia or hyperæsthesia, and in all the extent of the field of vision was an index to the amount of the psychical disturbance.

The relation of peripheral irritations existing in the gastro-intestinal tract to diseases elsewhere, has been recognized from the earliest time of medicine as an empirical observation, by which the harmful practice of indiscriminate purging has been upheld. Our literature abounds in well-defined clinical evidence upon this subject. Among the most recent and interesting observations I find one which in this day of over-zealous specialism may serve as an illustration of scientific conservatism. Professor Gussenbauer has published[1] twenty-eight cases of intermittent trigeminal neuralgia, which were referred to him for surgical treatment, and among which he found only four that required surgical interference. The remaining twenty-four yielded to careful attention to existing intestinal torpor. Some of our enthusiastic specialists would do well

[1] New York Medical Journal, June and July, 1885.

[1] Prager medicinische Wochenschrift, No. 3, 1886.

to emulate the example of this conservative surgeon and ponder well and long ere they inflict lasting deformities upon the patients committed to their care.

Nothnagel has clearly shown in his *Klinik für Darmkrankheiten* that intestinal activity depends upon the functionating capacity of the intestinal glands, and that many cases of constipation may be traced to the diminution of automatic action in the nervous apparatus of the intestines. That pathological changes in the ganglia of the intestinal muscles, producing constipation, may convey nervous impulses through the sympathetic to the cerebro-spinal system, and then produce abnormal sensations, has been often practically demonstrated.

Nothnagel believes that hemicrania from constipation is due to a venous stasis in the intestines, which impairs the functions of the latter by reason of an insufficient supply of oxygen, so that intestinal irritability or automatic activity is diminished. The latter produces abnormal excitation of the cerebro-spinal system, resulting in an irritation or paresis of the vaso-constrictor fibres of the cervical sympathetic, which in turn produces the vaso-motor phenomena of hemicrania.

Sciatica, formerly supposed to be due to pressure from fæcal masses in the sigmoid flexure, may be similarly explained. This brief reference is made in order to illustrate that many functional nervous conditions may be removed by the old-fashioned and rationally explicable treatment of constipation, and to emphasize thereby the lesson that careful and industrious search for foci of peripheral irritation should be made *in every direction* before the eyes and nose, the urethra, or worst of all the uterus and ovaries are attacked and mutilated.

In conclusion, permit a general practitioner who has endeavored by many years' service in the eye, ear, throat and gynecological departments of our city dispensaries, and by industrious attendance upon the clinics of our metropolitan hospitals, to keep himself abreast of the advances of special departments in medicine, to sum up his views on the therapeutic significance of peripheral irritations, as follows:

1. The existence of peripheral irritation as an etiological factor is well established.

2. There need be no conjecture in the search for such causes of functional nervous diseases in many cases, because we have means, in at least the more recently discovered sources of peripheral irritation, the eye and nose, of detecting and testing their existence.

3. All harmless methods of treatment should be exhausted before mutilating procedures are adopted.

4. Whenever there is a doubt the local condition should receive the benefit of that doubt and treatment should be directed to the improvement of the general health, the re-establishment of defective secretions and to the removal of the patient from unfavorable environment.

47 EAST SIXTIETH STREET.

AN OVARIAN CYST, COMPLICATING PREGNANCY; OBSTRUCTING LABOR AND BECOMING GANGRENOUS IN THE PUERPERAL STATE.

BY BARTON COOKE HIRST, M.D.,
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MRS. S., married for thirteen years, had one child twelve years ago, when she was delivered by forceps. The lying-in period was complicated and since that time the patient has been in bad health. She was told by one physician that there was backward displacement of the womb with fixation, and that she could never again be impregnated. Another said there was a pelvic tumor. A gynecologist of New York believed the tumor to be a fibroid and prescribed fluid extract of ergot in teaspoonful doses; this was taken three times a day for two months, and afterward in daily doses of a teaspoonful for two years until last July, when the medicine was discontinued on account of the nausea and general distress which it produced. After this time the menses failed to appear, and there soon developed all the presumptive signs of pregnancy; there occurred at this time several sharp attacks of abdominal inflammation. A physician who was then consulted took such a gloomy view of the case that the patient became thoroughly alarmed, and, having heard of Dr. S. Weir Mitchell as a famous physician, travelled to Philadelphia to consult him in regard to her condition. She was bitterly disappointed when Dr. Mitchell refused the case and kindly referred it to me. On examination I found an abdominal tumor corresponding in size to the uterus at the seventh month of gestation. Palpation detected the outline of a fœtal body and intermittent contractions of the tumor walls. Fœtal heart-sounds were plainly heard. On vaginal examination the cervix was discovered, with some difficulty, high up and far forward, directly over the symphysis pubis. Back of it the posterior vaginal vault projected downward with an even dome-like shape to within an inch of the vulva—too soft for a fibroid, too firm for a cyst. On balancing the fœtal head between the fingers placed above the symphysis externally and those within the vagina, the impact upon the latter was so distinct and the head entered the pelvic inlet so readily that the idea of sacculated uterus occurred to me. The diagnosis rested between this condition and some form of tumor blocking up the pelvis, with the stronger inclination on my part to the former opinion. Arrangements were made to induce labor two weeks before term by dilating the cervical canal and then to proceed according to the indications. When the dilatation was sufficient to insert a finger in the uterus the nature of the trouble was discovered to be, not sacculation of the uterus, but a tumor in the pelvis which gave an indistinct sensation of fluctuation.

On the chance of the tumor containing fluid an aspirating-needle was plunged through the vaginal vault and eight ounces of a thick, grayish sebaceous-like liquid slowly flowed into the aspirator bottle. This reduced the tumor in size sufficiently to permit combined version and the extraction of an infant, alive but so deeply asphyxiated that it could not be revived.

The mother did perfectly well for four days, when the temperature began to rise. The fever at first was slight, but gradually increased until on the tenth day it was evident that there was serious trouble. Being obliged to leave town on that day, I requested a colleague to operate for me. Returning a week later, I found the operation not yet performed and the patient in a desperate condition. She had high fever, was reduced to the last degree, and had a rapid, fluttering, almost imperceptible pulse. She certainly had not more than twenty-four hours to live. A laparotomy was immediately done, under partial anæsthesia. A large tumor with dark-colored walls was seen to the right of and behind the uterus, immovably fixed by dense adhesions. It was punctured and discharged several pints of horribly fœtid fluid mixed with putrefying solid particles. Enucleation of the tumor was out of the question. The empty sac was stitched to the abdominal walls and drained, the peritoneal cavity was well washed out, the lower part of the omentum, congested, œdematous, and thickened to about one and a half inches, was amputated, and the abdominal wound closed without drainage. As there was a constant discharge of fœtid pus from the sac, the abdominal wound was simply dusted with iodoform and covered with a piece of absorbent cotton which was changed every half hour, as no occlusive dressing could have been kept clean. The wound healed by first intention. The day following the operation the woman's temperature was normal. There have been a few rises of temperature during convalescence, due to imperfect drainage of the cyst. This has been overcome by a counter-opening made into it through the vault of the vagina. The case at present (eight weeks after the operation) bids fair to end in a speedy and complete recovery.

248 SOUTH SEVENTEENTH STREET.

CLINICAL MEMORANDA.

THERAPEUTICAL.

Is Aconitine "Always Unsafe Internally"?—The above question, which I shall endeavor to answer in the negative, was suggested to my mind by noticing in the table of doses in the *National Medical Dictionary* the statement that aconitine is "always unsafe internally," and also that the dose is from "$\frac{1}{400}$ to $\frac{1}{300}$ of a grain."

From actual experience I am convinced that aconitine is far from being an unsafe internal remedy, but that, on the contrary, it is one of the most valuable and safe therapeutical agents, if given in proper doses, and with the judgment that is always necessary in administering the alkaloids. Like all drugs of its class, it is very powerful; but this makes it the more useful, as the dose is consequently small, and its physiological and therapeutical effects are rapidly obtained. For nearly three years I have used aconitine in place of all other preparations of aconite, and in no instance have I observed any dangerous symptoms follow. I have given it, both by the mouth and hypodermically, in doses ranging from $\frac{1}{500}$ to $\frac{1}{150}$ of a grain, and I would have no hesitation in giving $\frac{1}{100}$ of a grain in proper cases. The latter dose would correspond to about one grain of aconite root.

To employ therapeutic agents to the best advantage, the physician must be able to prescribe the exact dose required. This is impossible with drugs of variable strength. That a crude vegetable drug will vary greatly in this respect is a fact that all must admit, and, consequently, drugs in this form are now comparatively little used. They have given place to solid and fluid extracts which are more uniform in strength. These, ere long, must give place to remedies whose strength has been definitely fixed by assay. It is unreasonable to suppose that the active principle of any drug is an unsafe remedy, for it is to this principle that all drugs owe their virtue. True, the active principles are a great deal more powerful for good or harm; and, consequently, it is necessary to handle them with more care and judgment. By using aconitine we obtain a more rapid and decided effect than we can with aconite, and one that is preferable in many respects.

In concluding this note, I wish to say that I believe, if any intelligent physician will give the active principles an unprejudiced trial for one year, at the expiration of that time he will agree with me that they are far more desirable than any other form of medication, and that, if handled with care, they are far less dangerous.

A. L. BARR, M.D.

CALAMINE, ARK.

HOSPITAL NOTES.

EXCISION OF A BRANCHIOGENIC CYST. RADICAL CURE OF INGUINAL AND VENTRAL HERNIA. OPEN OPERATION FOR VARICOCELE.

Abstract of a Clinical Lecture delivered at the Roosevelt Hospital, New York.

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A man thirty-five years old with a large cystic tumor on the front of the neck was the first subject for operation. This tumor was perfectly round and smooth and projected just beneath the symphysis and body of the jaw, with a deep attachment on the left side beneath the edge of the sterno-cleido-mastoid muscle. It was about four inches in diameter. The tumor had been first noticed when the patient was six years of age, but had caused no disturbance of function and no great discomfort, but had grown very much during the last four years. Dr. McBurney said that it was a branchial cyst, produced from the remnant of a fœtal branchial cleft, one of the four openings between the branchial arches, which are seen at the end of the first or the beginning of the second month of fœtal life. Owing to defective closure of these clefts embryonic structure becomes included in the tissues of the neck, and this is capable of

producing large and very serious cysts. Although their origin is so remote, it by no means follows that the development of the tumor is noticed at birth or even soon after, for they may not make their existence known for many years. They are lined with epithelium, sometimes ciliated, but usually of the tessellated variety. This epithelium is the element which has made it so difficult to obtain a complete cure; for, so long as a portion of this epithelium-lined cyst remains, unless there is sufficient active inflammation after the operation to destroy the lining there will most probably be a recurrence.

There was a difference in the situation of this cyst from that of a cyst of the thyroid gland; for the thyroid gland was below the site of the tumor, which did not participate in the movements of deglutition. There was no pulsation to be felt in the tumor.

Dr. McBurney said that in the treatment of this condition all such methods as the seton, which have for their object the establishment of inflammatory action within the sac for the purpose of obliterating it, should be discarded. Evacuation of the contents of the sac and the injection of tincture of iodine are inefficient and unscientific procedures; for the cysts often have prolongations running deep into the tissues of the neck which cannot be reached by such means. Treatment by simple incision and drainage has so often failed that it holds out no special inducements. If the wound were packed with gauze the obliteration might be only superficial, and a second operation is much more difficult on account of the inflammatory thickening of the tissues. Some cases of excision of the cyst are very simple, the tumor shelling out with comparative ease; while others are so difficult as to force the boldest operators to abandon the operation. One difficulty frequently met with is the close attachment of the cyst to the jugular vein. This vein is readily displaced, and is often emptied of blood by the tension made by the tumor, so that a safe dissection of this region is extremely difficult. The plan proposed in this case, which was apparently an easy one, was to dissect down to the tumor and then decide upon the propriety of performing a complete excision. If this were found to be too dangerous, the exposed portion would be cut off, and the wound allowed to granulate in the hope of securing obliteration of the remainder.

A thick reddish-brown fluid, which was first removed by hypodermic puncture, under the microscope showed epithelial cells, fat and cholesterin. An incision was made in the median line over the whole extent of the tumor, the overlying tissue being found very vascular. There was not a single and easily dissected capsule, but rather a number of capsules, each one of which partly surrounded the mass. There was no attachment to the jugular vein, although this vein lay immediately under the left edge of the tumor, which was removed entire without any special difficulty. The wound was irrigated with bichloride solution (1:2500), and a few small vessels tied. A rubber drainage-tube was inserted at each side through separate openings and the wound was closed with a continuous silk suture. A final irrigation and the application of antiseptic dressings completed the operation.

CASE II.—The next patient was a young and healthy woman with a tumor in the right groin. The tumor was reducible, and had never been strangulated or inflamed, but had been very painful. It proved to be an indirect inguinal hernia coming well down into the labium. Dr. McBurney said that the radical cure of hernia was especially desirable in women, and he did not acknowledge any contra-indication to the performance of his operation for radical cure, except alcoholism or some advanced chronic ailment like Bright's disease, which would make one hesitate to do any important operation. The mortality from the operation had been extremely low, he having lost only two patients out of a large number, and both of these developed acute alcoholism very soon after the operation. His cases had never had peritonitis, hæmorrhage, or general septic infection, although some of the herniæ had been large and the intestines had been handled pretty freely. He does not consider some other methods of radical cure equally safe; for, in his operation there is no tissue deprived of vitality included under the skin or sutures, and no opportunity for concealed sepsis. Brilliant as had been the results of Macewen's method, he could only regard it as founded on unsound surgical principles. The return to a concealed position beneath the abdominal wall of a tissue like the sac which had been dissected out and deprived of its vitality he could not endorse.

The incision was begun just beyond the situation of the internal ring following the line of the canal as far as the pubes, and the dissection was continued at the upper part until the external oblique aponeurosis was exposed. Then the remainder of the incision external to the sac could be completed in safety. This exposed the pillars of the ring and the hernial sac. The sac appeared to be empty. The canal was then opened, exposing the lower border of the conjoined tendons, and the sac dissected out. If the sac should be cut off at the level of the external ring and left in the canal or sewed up at any point below the internal ring, the remnant would invite a recurrence of the hernia. If twisting the sac were resorted to a portion of intestine might be injured. It was imperative that the sac should be opened, for there might be some omentum or intestine adherent within it. There was an additional advantage in being able to push the finger in and being sure that nothing but the sac was included in the ligature, which could then be applied just above the level of the internal ring. Some claim that if the conjoined tendon be brought against Poupart's ligament and sewed there it will unite with that ligament; but it cannot do so with any strength, for tissues so unlike in their structure can be made to unite only by first freshening their surfaces or by forcing them to granulate. Dr. McBurney does not allow the granulation tissue to form loosely in too wide a wound; for it is not intended that the cicatricial tissue itself shall support the abdominal pressure, but only that it shall firmly bind together the walls of the wound. To accomplish this the wound was narrowed by the use of tension sutures.

CASE III.—The next case was a woman with a ventral hernia, the result of the yielding of the cicatrix left after some abdominal operation. The incision had been quite extensive, and the cicatrix was said to be three or four years old. The patient said that about three months ago, while making some unusual exertion, the swelling first appeared. The hernia was easily reducible, and as

it was covered with thin cicatricial tissue it threatened to enlarge rapidly. This case permitted entirely different treatment from the preceding; for these tissues could be incised and homologous structures brought together and made to heal by first intention. He thought it safer to cut down at either side of the hernia to avoid possible injury to adherent intestine. After some dissection the finger was introduced into the subperitoneal tissue. The operator said that it would be desirable to obliterate this loose pouch of peritoneum which had been in the sac, but as the intestine was evidently adherent such a procedure might involve injury to the gut. The tissues were united by a continuous catgut suture, layer by layer, the skin wound being brought together with silk. No drainage was needed. Healing by first intention and strong union should be obtained in three weeks.

CASE IV.—Dr. McBurney next exhibited a young man who had had a swelling in the left scrotum for eleven years. He stated that it had appeared suddenly after making some unusual exertion, and that it caused more or less discomfort. It became much larger a short time ago, after a sudden effort, but it had never been acutely inflamed. It had a peculiar feeling, not unlike that of a lipoma. There was the usual impulse on coughing noticed in varicoceles. The case resembled the kind of varicoceles sometimes seen in connection with abdominal tumors, but the patient had not been examined under ether with reference to this point. No abdominal tumor could now be found.

The subcutaneous method is excellent for small varicoceles; but for large ones Dr. McBurney prefers the open method. An incision was made from the external ring down into the scrotum. The case proved to be one of ordinary varicocele with much condensed areolar tissue which could not be dissected, as usual, by tearing, but required cutting with scissors. Apparently there had been considerable inflammation. The veins were separated from the cord and ligated at the external ring and again a short distance above the testis, and the portion included between these two ligatures excised. There were always enough healthy veins remaining to carry on the circulation. The two stumps were then stitched together with catgut, which brought the testis near the external ring, a position which would be permanent. The skin wound was closed with a continuous silk suture, and a drainage-tube inserted. An antiseptic dressing with rubber tissue and a spica bandage completed the operation.

MEDICAL PROGRESS.

A Successful Case of Inguinal Colotomy for Absence of Rectum in a Child Five Days Old.—DR. T. A. HELME, in the *British Medical Journal*, June 7, 1890, reports a case of this kind. He says: Complete obstruction of the bowels in the newborn child is not a very rare occurrence, and is dependent on one or other of a variety of pathological conditions. Most commonly the cause is found in the imperfect development of the lower bowel. It is a matter of importance, whenever the bowels of a newborn child do not move naturally, to make a careful examination for any gross lesion of the anus or rectum before proceding with purgative treatment; otherwise the only result may be aggravation of the child's suffering and hastening the commonly fatal issue. The history of the case related suggests the necessity of this precaution, and at the same time the successful result of the operative treatment adopted shows what may be hoped for from timely interference.

A male child, aged five days, came under observation on the evening of April 18, 1890, with the following history: The child was born on the evening of April 13th, when it presented every outward appearance of full and healthy development; the mother was a strong and healthy woman of twenty-six, and this was her first child. Two days later, April 15th, as the bowels had not yet moved, castor oil was administered. The desired effect not being brought about, the castor oil was repeated several times on the three succeeding days, and on the evening of April 18th, as the bowels still remained obdurate, the nurse was ordered to give the child a soap-water enema. As this could not be satisfactorily done, the child, presenting a most pitiable appearance, was brought to Dr. Helme. Its face was pinched and emaciated, its arms and body in constant movement, its legs repeatedly drawn up in a piteous manner on the abdomen, while it moaned continuously; evidently the child was in extreme pain. On examination, the abdomen was found to be greatly distended, the walls so thinned that the intestinal coils could be seen and their movements watched.

The perineal region presented a normal appearance, but on introducing the little finger into the anus the canal was found blocked by a membranous septum about half an inch from the skin surface. No bulging could be felt during the child's straining, from which it was evident that the lower end of the rectum was not in contact with the septum. Nevertheless, it was decided to puncture the membrane. No escape of intestinal contents following, Dr. Helme therefore carefully dilated the opening already made and introduced his finger into the peritoneal cavity. This examination confirmed his opinion; the rectum was altogether wanting, the blind bulging extremity of the sigmoid flexure being felt at the pelvic brim. Inguinal colotomy was, therefore, decided upon.

The operation, after washing the anal depression with weak sublimate solution, and introducing a strip of iodoform gauze, was done in the usual way on the left side. The abdominal wall was incised down to the peritoneum, the incision being about one inch and a half in length, parallel to the outer part of Poupart's ligament, and commencing externally a little above the anterior superior spine of the ilium. After compressing one or two bleeding points the peritoneal sac was carefully opened, when the bowel immediately presented in the wound. Two silk sutures were passed through the skin and parietal peritoneum of the one side of the incision (the muscular tissue being avoided), then through the bowel, the peritoneum and the skin of the other side. The bowel was then incised longitudinally for half an inch, the silk sutures were hooked up in a loop, divided, and tied on their respective sides; additional sutures were put in, completely closing the peritoneal sac. An immense quantity of material escaped from the bowel.

For several days after the operation there was con-

siderable redness encircling the wound, and some sloughing of cellular tissue around the adherent peritoneal surfaces. Gradually, however, this healed, the child, fed on peptonized milk, was discharged in an excellent state of health on the seventeenth day after operation. The mucous membrane had retracted within the bowel and the wound had healed perfectly. The sound introduced through the false anus passed in a downward direction for little more than half an inch, striking there the blind extremity of the colon.

This condition, complete development of the anus with absence of the rectum, is rare, and is likely to mislead the practitioner unless a very careful examination is made. Even on careful inspection the child appears to be perfectly developed, and unless the finger is passed into the anus the cause of the obstruction cannot be ascertained.

The history of this case of obstruction in the newborn child serves to emphasize the necessity of a careful digital examination of the bowel before resorting to any medicinal treatment. After the condition has been recognized the choice of operation seems to me a simple one. There are two alternatives, viz., inguinal or lumbar colotomy. But the three facts, namely (1) the small amount of space available; (2) the frequency with which one finds a long mesocolon in the infant, and the consequent displacement of the colon; (3) the relatively large size of the kidney and the consequent risk of injuring it, turn the balance in favor of opening the bowel in the groin.

On the Treatment of Metrorrhagia.—DR. A. W. EDIS, in the *Brit. Med. Journ.*, June 7, 1890, writes that in metrorrhagia a correct diagnosis being the first and most important element of treatment, it follows as a matter of course that having ascertained the presumed cause we know then what our plan of action should be. Still there are some practical hints which may be found to be of value to some. Where the hæmorrhage results from constitutional or general conditions it is not always wise to attempt to check the flow at once, unless it is producing such an effect upon the system as to suggest the expediency of arresting it at all hazards. In certain cases of heart disease uterine hæmorrhage, in place of aggravating, seems to relieve the cardiac symptoms, and should not, therefore, be hastily repressed. Strophanthus, digitalis, and aconite here prove most useful. Where the action of the liver seems to be at fault, attention to diet, abstention from alcohol, and the administration of a few grains of calomel, blue mass, or eunonymin, followed by a brisk saline aperient, will probably be indicated. If albuminuria be present, or if the kidneys seem to be at fault, encourage vicarious action of skin and bowels by means of diaphoretics and purgatives, and follow out any other indications suggested. In cases of menorrhagic chlorosis, bromide of potassium in half-drachm doses has proved of service, iron with strychnine being given between the periods and attention being also given to ordinary hygienic details, to avoidance of tight lacing and of physical overwork. It is well to remember that hæmophilia, scurvy, malaria from residence in damp or marshy districts, lead-poisoning, and other unusual conditions will occasionally explain the presence of metrorrhagia. The mere recognition of the cause will be at once a suggestion as to the proper course of treatment.

Where uterine hæmorrhage persists, notwithstanding the employment of constitutional measures, and there is no apparent local cause to account for it, we should without further delay dilate the cervix uteri and explore the interior of the uterus. Numerous instances have been recorded of patients dying from uncontrollable hæmorrhage, where a *post-mortem* examination revealed the existence of some intra-uterine growth, such as a polypus or submucous fibroid, retained product of conception, or fungoid condition of the endometrium, which could readily have been removed or dealt with had appropriate measures been adopted in time.

The insertion of a sponge tent into the cervix uteri arrests the hæmorrhage for the time being, and facilitates subsequent exploration of the uterine cavity. As to any risk of reflux through the Fallopian tube, as sometimes spoken of, it is a mere visionary objection, and need not deter us from employing dilatation in suitable cases. Plugging the vagina is a very unscientific procedure, as well as being unsatisfactory and inefficient. It should seldom, if ever, be resorted to.

It would clearly be impossible in these brief remarks to indicate in detail the methods of local treatment, such as curetting for villous endometritis, removing polypi, operating for cancer, the use of electricity in cases of myoma, the best method of dealing with cases of incomplete abortion, or replacing an inverted uterus. If we have once clearly made out the indications for treatment the remainder is merely a matter of detail. But now and again instances occur where no assignable cause, either constitutional or local, can be made out, and where remedies fail to restrain the hæmorrhage In such cases the hot vaginal douche may prove of service, or even washing out the uterine cavity with hot water through a double-current catheter, provided the cervix be patulous enough to admit it. Should this fail it may be considered requisite to wash out the interior of the uterus with a strong solution of iodine or of iron. As a *dernier ressort*, the insertion of a sponge tent into the cervix uteri may be effected.

The reliable remedies at our disposal for checking or arresting uterine hæmorrhage are really very few. Ergot is unquestionably one of the most potent; Hydrastis Canadensis is a valuable agent and far too little generally known. In cases of myoma it often proves of service when ergot has failed. Hamamelis, which forms the basis of the American nostrum hazeline, is sometimes useful. Quinine and strychnine, alone or in combination, often succeed in checking or arresting hæmorrhage in those cases where the system is much depressed from repeated or prolonged losses. Bromide of potassium in cases of ovarian irritation, and even in hæmatocele, possesses thd power of checking hæmorrhage and is equal, if not superior, to any remedy we possess. Chlorate of potassium in combination with ergot has lately been strongly recommended. Opium is beneficial in cases where the loss has already been severe. Sulphuric acid and opium formerly were, and still are, with some practitioners, favorite remedies; also, acetate of lead and opium in the form of pill.

The ordinary astringents, such as gallic and sulphuric acids, have really very little influence in restraining

hæmorrhage, and are far too often relied upon. Iron is often of much benefit in those cases where the loss has been very profuse, as in myomata, and where the blood has become so attenuated as to pass readily through the capillaries. Digitalis, in combination with iron, proves most valuable in cardiac complications.

In place, however, of attempting to deal empirically with the effect, we should always endeavor to arrive at a definite opinion as to the cause of the hæmorrhage, and, if we can deal with this satisfactorily, the treatment is very simple.

Prescription for Impetigo Contagiosa.—SAALFELD recommends the following somewhat elaborate ointment in the treatment of impetigo contagiosa (*Medicinische-chirurgische Rundschau*):

℞.—Potassium carbonate . . . 1 part.
Olive oil . . . . . 10 parts.
Zinc oxide } of each . . . 15 "
Starch }
Salol . . . . . 5 "
Sulphur . . . . . 6 "
Lanolin . . . . . 100 " —M.

Local Application for Diphtheria.—This formula, to be used as a local application in the treatment of diphtheria, is quoted in the *Medicinische-chirurgische Rundschau:*

℞.—Carbolic acid . . 1¼ to 2½ drachms.
Camphor . . 5 to 7½ "
Tartaric acid . . 4 to 10 grains.
Olive oil . . 9 to 12 drachms.
Alcohol . . 2½ "

To be applied with a soft brush.

Tiersch's Method of Skin-grafting.—In a thoroughly practical paper upon skin-grafting, MR. W. WATSON CHEYNE gives the following advice upon the methods to be employed (*Practitioner*, June, 1890):

1. The proper time for grafting is when cicatrization is distinctly advancing at the borders of the wound. If we wait much longer than this an unnecessary amount of granulation tissue will form, and the contraction of the scar will be excessive.

2. Before attempting to graft, the surface of the ulcer should be aseptic; if it is not, suppuration between the granulations and the graft will prevent union. Asepsis of the sore is best secured by washing the surrounding skin with carbolic and sublimate solutions, mopping the ulcer with zinc chloride solution (40 grains to the ounce), then dusting it with iodoform, and dressing with borated lint which has been dipped in a 1-to-2000 sublimate solution. Excepting the zinc chloride, this treatment should be repeated for several days before applying the grafts.

3. Just before grafting, the superficial layer of the ulcer should be shaved or scraped off, checking hæmorrhage by the pressure of a sponge under which is a piece of protective.

4. While the bleeding is being arrested the grafts should be taken, preferably from the thin skin of the flexor surface of the forearm. The skin which is to be used should be shaved and disinfected by scrubbing with a 1-to-500 sublimate solution, then with a 1-to-20 carbolic solution. A strip of skin about one inch wide and as long as desired is then dissected off, avoiding the subcutaneous tissue. The strip is cut into pieces about half an inch long, and planted on the prepared surface. The grafts should be numerous and nearly touching one another. It must be remembered that they shrink considerably.

5. When the operation is completed, the surface is covered with protective, and gentle pressure is made to squeeze out any blood that may be between the grafts and the surface of the ulcer. The remainder of the dressing is boric lint, salicylated cotton, and a bandage. The dressing may be renewed on the third day.

The Preparation of Beef Juice.—According to the *Dietetic Gazette*, the following is the proper method of extracting the juice from beef: Broil half a pound of beef for a moment over a hot fire, then score it thoroughly, and with a lemon-squeezer press out the juice. Add a pinch of salt, and warm before administering.

Formula for the Hypodermic Administration of Ergotinin.—BARONI uses the following formula for the hypodermic administration of ergotinin:

℞.—Ergotinin } of each . . 3 grains.
Lactic acid }
Cherry-laurel water . . 5 drachms.
Distilled water . . . 3 ounces.—M.

The dose of this is from fourteen to eighteen drops.—*Gazette de Gynécologie*, June 1, 1890.

An Antiseptic for Midwives.—The Paris correspondent of the *Pharmaceutical Era* writes that the Academy of Medicine has formulated the following antiseptic powder to be dispensed to midwives, upon their order in writing:

Corrosive sublimate, . . . 3.8 grs.
Tartaric acid, ... 15.4 "
Five per cent. solution of indigo-carmine, 1 drop.
Mix and dry.

Each powder to be dissolved in one quart of water, must bear the regulation orange-red label, with the words "Corrosive Sublimate. Poison."

Iodine in the Treatment of Retinal Detachments.—In the Berlin Medical Society, on May 7th, SCHOELER made a further report on the use of intra-ocular injections of iodine in the treatment of retinal detachment. A total of twenty-eight cases had been so treated, and details were given as to the five successful and the remaining more or less successful cases—three of the latter being really nearly complete successes. A number of the cases had been desperate, and hardly suitable, from their long duration, the presence of cataract, etc. Serious hæmorrhage ruined the result in three eyes; minor extravasations lessened it in two cases; and in five a brilliant success proved but transient. Based upon a series of studies upon animals, and already attended with some success, the method seems worthy of fuller study, especially by laboratory experiments; and while an expectant treatment by rest, etc., should always be tried first, there is great likelihood that the method can be used in otherwise hopeless cases with moderate safety and considerable hope of cure.

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THE TREATMENT OF TUBERCULOSIS IN SANITARIA.

GERMAIN-SÉE, with the collaboration of M. JOURMON, discusses in *La Mèdecine Moderne* (May 15, 1890, No. 21) the utility of special hospitals for the treatment of phthisical patients of moderate means. This is a subject of very great importance, and the attitude of the profession is constantly becoming more and more favorable to the method.

There are many reasons why this should be so. In the first place, it is much more generally recognized that pulmonary phthisis is an affection in the treatment of which mere drug-giving is utterly useless; and measures designed to promote nutrition, as well as special therapeutic means directed against various incidents of the disease, must be faithfully, assiduously, persistently, and hopefully applied in order to be effective.

The average practitioner has not the familiarity with these measures, the hopefulness or the facilities necessary to carry them out in the proper manner. Hence, institutions, with their corps of trained physicians, experienced nurses, specially instructed cooks, their inhalatoriums, baths, sun-parlors, parks, and other desiderata, occupy a vantage-ground in the struggle against this disease immeasurably superior to that which can ordinarily be gained in the homes of any but the most wealthy patients; while some of the advantages of certain institutions cannot be obtained even by the greatest wealth.

Sée and Jourmon advance the following arguments:

In the first place, they claim that the treatment of tuberculosis may be reduced to two terms: first, the hygienic management of the patient; and second, prophylaxis.

They admit that all endeavors to find a parasiticide which would destroy the bacillus tuberculosis and allow the patient to live, have proved futile. Creasote is the only medicament which has retained the slightest credit in this direction, and it is extremely doubtful whether even this has any direct influence whatever upon the life of the microbe. When it has a good effect, this is to be attributed to the favorable influence which it exercises upon the character of the secretions. The problem, therefore, is reduced to the best means of rendering the tissues invulnerable; in other words, to bring about a "normal sterilization." The experience of the most competent observers in all countries shows that measures directed toward conserving and improving the nutrition of the patient, and varying with the idiosyncrasies of the individual, are the only means of accomplishing this. For the vast majority of patients these means are not attainable except in hospitals.

In the second place, the recognition of the specific nature of the disease, especially when one takes into consideration the great number of persons affected, makes it evidently injudicious to place them in general hospitals; even were it practicable there to devote to them the special attention which the peculiar nature of the treatment demands.

A further advantage in the establishment of special institutions is the fact that their location can be selected with due regard to climatic influences; and that all the details of internal arrangement and of surroundings, can be so managed as to reduce to a minimum the disadvantages of civilization, while retaining its comforts.

If typhoid fever alone can be excluded, and there is no reason why it should not be, from among the dangers to which the person of phthisical tendencies is exposed, there will be a great gain. The authors admit that it is vexatious and unnecesary to insist on the sequestration of phthisical patients as a measure of public health, on the ground of the supposed contagiousness of the disease. With proper precau-

tions all danger of its spread from person to person can be obviated.

In discussing this subject all honor and credit must be paid to the late Dr. Hermann Brehmer, who, in 1855, established his sanitarium at Goerbersdorf, in the face of much opposition, winning a success which has led to the multiplication of similar institutions in Germany and elsewhere. The institution at Goerbersdorf, with its accretions of thirty-five years, remains the model to which we must still turn for instruction as to the best means of securing the objects in view. It is now conducted by the assistants of Brehmer and by his widow.

A beginning has been made in this country, and the sympathy and interest of the profession should be sufficiently aroused to induce them to lend every encouragement to make the attempt successful.

It is not of charitable institutions that we are now speaking, it must be remembered, but of resorts for persons of moderate means, who can afford to pay for their board and care, but who cannot afford to pay for the skilled nursing and therapeutical appliances necessary to successful treatment, when the entire cost of these must be defrayed from individual resources. In special institutions, this expense being divided among many does not bear too hardly upon any one. We hope that some practical philanthropist will be induced to found such a sanitarium in the neighborhood of Philadelphia. If it merely accustoms the profession in this vicinity to a hopeful view of the resources of intelligent therapeutics, it will do much to save the lives even of patients beyond its walls.

THE RADICAL CURE OF CANCER OF THE CERVIX UTERI.

ON this important and interesting topic two opinions stand in opposition at the present day. Some operators regard vaginal extirpation of the uterus as offering an excellent prospect for recovery. Others limit their operations to ablation of the cervix with cauterization of infiltrated tissues, regarding the disease as incurable, and seeking in this way to prolong the patient's life and to relieve her sufferings. In his studies upon the catheterization of the ureters, PAWLIK (*Archives de Tocologie*, May, 1890) observed that cancer of the cervix usually spreads laterally before involving the body of the uterus. He also found that the ureters were rarely involved in this infiltration, and that it would be possible to extirpate the pelvic tissue with the uterus without injuring the ureters. Accordingly, in four cases of cancer of the cervix, he inserted a catheter into the ureters and extirpated the connective tissue of the pelvis with the affected organ. His results justified the inference which he drew from his observations. So far as a recurrence is concerned—only one of his patients could not be heard from subsequently—two of the women were in good health without recurrence over a year after operation; the fourth had cystitis with uretero-vaginal fistula. An operation to close this was refused, but the patient's general health continued good.

While the number of cases is too small to base a definite conclusion upon, yet it seems rational to follow Pawlik's suggestion. The catheterization of the ureters, however, while not exceedingly difficult, requires constant practice. We remember very well the skill with which Professor Pawlik illustrates and performs this little manipulation, and under his eye we have successfully followed his example; but when we remember that he embraces every opportunity to practise the exploration of the ureters, and that he finds constant practice requisite to maintain his remarkable dexterity, it is evident that the average operator may have difficulty in following his example. Without a guide in the ureter, it would certainly be unsafe to attempt the extirpation of the peri-uterine connective tissue, and also it would be impossible to tell whether malignant infiltration had not attacked these important channels. In the hands of an operator as skilful as Pawlik the method should certainly receive fair trial, but those less experienced and skilful should attempt it with caution. It is applicable to cases in which the pelvic connective tissue is only partially affected, in which the uterus is movable, and in which the fundus remains intact.

REVIEWS.

PRACTICAL ELECTRICITY IN MEDICINE AND SURGERY. By G. A. LIEBIG, JR., Ph.D., and GEORGE H. ROHÉ, M.D. Philadelphia and London: F. A. Davis, 1890.

THIS book having the stamp of Johns Hopkins University upon its title-page at once excites the expectations of the reader. The first part is devoted to a careful consideration of the various forms of the electrical and magnetic apparatus commonly used in medicine, together with the theory of the chemical actions taking place in the storage cell, a description of the electric motor, and the telephone and the phonograph. Though in this part of the book one is somewhat appalled by weird spiral figures, and pages of algebraic formulæ, it must be ad-

mitted that a student who has already acquired a thorough knowledge of mathematics and is well grounded in physics will have little difficulty in catching the drift of the subject-matter. To those not so thoroughly prepared an omission of this portion of the work will be found, perhaps, as useful as a careful perusal, and will, moreover, be less confusing.

Part second is devoted to electro-physiology, electro-diagnosis, and electro-medical apparatus. Into this subject the authors have dipped with great thoroughness, and though their descriptions are not always clear, they are invariably comprehensive. The sins of omission are few. In the chapter upon special electro-therapeutics specific directions are given for the electrical treatment of each disease. Thus, insomnia is treated by galvanization of the brain and medulla, general faradization, subaural and spinal galvanization, and static electricity. These concise yet comprehensive suggestions will, we think, be found of great service to the general country practitioner. Enlargement of the spleen, ascites, diabetes mellitus, and many other conditions are, it is claimed, benefited or cured by the electrical treatment.

We would say, in general, that this book suggests a compilation rather than the result of ripe experience, and that, like all other works constructed on this plan, it has not given the profession exactly what is needed.

PRACTICAL PHOTO-MICROGRAPHY, BY THE LATEST METHODS. By ANDREW PRINGLE, F.R.M.S. New York: The Scovill & Adams Co., 1890.

NOTWITHSTANDING that the book before us, as we are told by the author, was "written deliberately and confessedly for the natural and medical sciences rather than for those who use the microscope as a pastime," American workers in these fields will feel that their needs have been but partially appreciated. What the investigator wants is the simplest possible method of arriving at thoroughly satisfactory results.

Illumination—that matter of the greatest importance for successful photo-micrography—is very inadequately discussed. While admitting that sunlight is, perhaps, the best of all illuminating agents, the author confesses that he has had but little experience with this illuminant, and, therefore, allows the unfortunate condition of British skies so to warp his judgment, that he gives utterance to the regret that those older notably successful cultivators of photo-micrography—Woodward among others—had not the advantages of "equable radiants and very sensitive plates." Does the author imagine that Dr. Woodward continued to use sunlight because the capabilities of the electric, magnesium, or lime-light were unknown to him? While Woodward's experiments showed that these were useful and fairly satisfactory substitutes for sunlight, he, as well as every experienced worker who has made comparison since, clearly recognized the great superiority of sunlight over all other sources of illumination. Let every one who seriously desires to produce the highest class of work, determine, from the start, to use sunlight, regarding the proper management of which, however, he will find little in the present volume.

Having expressed our dissent from what we are convinced is mistaken advice, it is a pleasure to endorse heartily the author's high estimate of the value of color-screens and of the apochromatic objectives. The examples of work serving as illustrations are very creditable, especially so when it is remembered that all were taken by artificial light—this, with one exception, being the lime-light. The confusion arising from printing the figures of Plate IV. over the descriptions of Plate V., and *vice versâ*, possibly extends to only a small part of the edition. Debarring the opinions already discussed, and a few slight inaccuracies, there is an abundance of hints valuable to all interested in photo-micrography.

CORRESPONDENCE.

NEPHRITIS FOLLOWING INFLUENZA.

To the Editor of THE MEDICAL NEWS,

SIR: In *The Lancet* of May 10th, Dr. E. Mansel Sympson describes a case of acute nephritis following influenza, and I have a similar case to report, as well as four cases to mention, in which disease of the kidneys became prominent after attacks of "La Grippe."

CASE I.—Patrick D., private of Marines, aged twenty-five years, a native of Ireland, was admitted to the United States Naval Hospital, Washington, on February 25, 1890, with catarrhal fever, which began on the day before with severe muscular pains, nausea, anorexia, a temperature of 103° F., and a pulse of 90 per minute. About this time the epidemic of influenza was nearing its end here. The patient had also been treated for gonorrhœa from February 11, 1890.

On his arrival at the hospital he was very restless, complained of frontal headache, and of pain in the muscles of his back and in the calves of his legs; his eyes were red and watery; nausea, bilious vomiting, and looseness of the bowels were present, with a temperature of 101° at 2 P.M., rising to 101.4° at 6 P.M., and a pulse of 100. Lungs and heart normal; no cough or expectoration. Quinine was given, but otherwise the treatment was expectant.

26th. No better; temperature 102.6°; nausea and vomiting continue.

27th. Much worse; pulse 96, temperature 102°; is very restless; complains of almost constant nausea and uneasiness in the stomach. At 5 P.M., pulse 100, temperature 99.4°; somewhat better.

28th. Rested well last night after a dose of chloral and potassium bromide; temperature 99.2° in the morning, and 101.2° at 5 P.M.

March 1. Temperature 98.4° at 8 A.M., rising to 100.6° at the evening examination. Improving; discontinued medicines.

2d. Temperature normal.

5th. Is up and about the ward. Ordered the following injection for his gonorrhœal discharge: Sulphate of zinc and acetate of lead, of each 4 grains; distilled water 2 ounces.

9th. Discharge from the penis has almost stopped; at 8 P.M. he went to bed with a chill, which was followed by a rise in temperature.

10th. Is better; the urethral injection continued.

11th. Much worse; had a chill during the night, followed by a temperature of 103.2°.

12th. Somewhat better; temperature 101.2° in the morning, and 101.6° at 4 P.M.; complained of uneasy

sensations in his stomach and pain in the back; discharge from the urethra had ceased.

13th. Temperature normal in the morning, but rose to 102° in the evening; discharge from the urethra returned.

14th. Temperature normal in the morning, rising to 100 4° in the evening; complained of nausea and uneasiness in the stomach, and of great pain in the right lumbar region; tongue much coated.

15th. Not so well; temperature 100°, rising to 104° in the evening.

16th. Temperature 100°, rising to 103° in the evening.

17th. Urine this morning contained blood, pus, and some *casts;* it is also highly *albuminous;* temperature 101°, rising to 103° in the evening; complained of pain over the right kidney.

18th. Better; temperature normal in the morning, but rose to 100° in the afternoon.

20th. Much better; temperature normal.

24th. Urine still cloudy, contains blood and pus-corpuscles, but the patient is improving.

31st. Urine clearing up; still of low specific gravity and pale.

April 3. Urine pale, specific gravity 1011; contains a little blood and mucus, but no casts.

13th. Urine clearing up; specific gravity 1016; patient much better.

22d. Patient restored to health, and discharged to duty.

As with Dr. Sympson's case, a complication exists in mine. His patient had ancestors who suffered from renal calculus and gravel; and the doctor suspects "hereditary weakness or predisposition" to renal disease. My patient had gonorrhœa, which was treated with copaiba before he came to the hospital, and with a fairly strong urethral injection here.

These two cases resemble many others in which "la grippe" seems to have found a nidus for its redundant germs to work mischief in organs already enfeebled by other causes.

For a time I was in doubt about the cause of nephritis in the case I have reported, attributing it to an extension of the gonorrhœal inflammation to the right kidney, which had been the seat of acute pain; but Dr. Sympson's case, together with some others which I will mention, leads me to believe that influenza was at least one of the chief exciting causes of the nephritis.

CASE II.—A patient died with uræmia at this hospital on January 24, 1890. He had suffered with influenza on January 5th, and was sent here for acute pleuritis on the 9th of the month. Autopsy revealed recent adhesions on both sides, but more on the left side. He had a urinary fistula at the root of his penis, resulting from a urethral stricture; his urine had only dribbled away for several years. There was hydronephrosis on each side. The left kidney weighed four ounces, its cortical portion having almost entirely disappeared; its pelvis and calyces were dilated. The right kidney weighed seven and a quarter ounces, its cortical portion having undergone some degeneration also from the existing hydronephrosis. The Malpighian bodies were small and indistinct; pelvis and ureter very much dilated, and discharging a dirty, brownish-looking liquid when cut open.

CASE III.—On February 28, 1890, a lieutenant in the U. S. Navy was admitted to this hospital with albuminuria; the hospital ticket stated as follows: "Albumin first noticed in urine following an attack of epidemic influenza in the latter part of December, 1889, and the beginning of January, 1890, at U. S. Naval Training Station at Newport, Rhode Island. A very few hyaline casts were found, and albumin to the extent of about ¼ of one per cent. persisting, with symptoms of lung irritation, cough, cold extremities, etc."

The patient has the lithæmic diathesis, and is subject to rheumatoid pains, and a slight swelling of the feet.

On March 16th the examination of his urine showed a very faint trace of albumin, very few hyaline and granular casts, a specific gravity of 1016, and an acid reaction. He felt stronger, and on going out into the city he came back less fatigued than on other days recently.

On May 2d he was detached from this hospital and placed on sick-leave, his urine still showing albumin and casts.

On May 17th I had a letter from him dated two days earlier, in which he stated that he had not kept up the modified milk-diet on which I had placed him, that he did not feel so well, and had more albumin in his urine than he had while here.

CASE IV.—On March 5, 1890, a patient was admitted to this hospital with pneumonia of the right lung. His hospital ticket described him as having been ailing for ten days before he was received here. His case resembled the numerous cases of pneumonia that followed "la grippe" in this vicinity about the same period. As he came from a tender that had no medical officer on board, he was not examined until pneumonia had set in, and this fact renders it probable that his preceding ailment was due to the then prevailing epidemic of influenza. His sputum was very much tinged with bile, he was intensely jaundiced, and for weeks after his convalescence from pneumonia his urine looked like brown-stout.

The most interesting point in this case is that, about the beginning of May, 1890, his urine was found to have a very low specific gravity, though albumin has never been found in it. On May 6th the record reads: "Urine clear, but of low specific gravity (1005)." In other respects he was quite comfortable, and on May 22d he was discharged to do duty as a servant. His conjunctivæ were still a little yellow; his skin did not reveal anything, as he is a negro; and his urine was normal in appearance. Could the influenza germs have irritated both liver and kidneys, as well as the right lung, in this case?

For the notes relating to the foregoing cases, and for the examinations of the urine, and the necropsy in the fatal case, I am indebted to Dr. D. O. Lewis, U. S. Navy, the resident medical officer of this hospital.

CASE V.—Another case bearing upon this subject has come to my knowledge. A friend and fellow medical officer recently died of pneumonia following an attack of influenza, during the height of the epidemic at Mare Island, California; he had suppression of urine before death, and at the necropsy he was found to have the "large white kidneys of Bright," in fact they were said to have been double the normal size.

While the five cases reported by me do not prove that

the germ of "la grippe" alone caused the renal complications, yet I believe they do show that an attack of influenza often brings to the patient's notice the existence of serious or even fatal kidney disease previously unsuspected.

A. A. HOEHLING, M.D.,
Medical Inspector, U. S N., in charge.

WASHINGTON, D. C.

NEW YORK.

To the Editor of THE MEDICAL NEWS,

SIR: The busy round of society meetings, lectures and clinics has given place to the usual lethargy of the heated term, and medical men are more interested just now in planning for a short season of recreation than in medical matters. Those less fortunate ones, who are compelled to remain in the city all summer, are either dazed at the prospect, or, making the best of their lot, have begun their annual struggle with the problem of summer diarrhœa, and are endeavoring to determine the best methods of infant feeding.

New York has not had to wait this year until the "dog days" to record a case of hydrophobia; for a genuine case of this much dreaded disease was brought to Bellevue Hospital the other day. The patient was a middle-aged man, bitten by a dog several weeks previously. He was brought to this city for the purpose of receiving the Pasteur treatment; but he arrived too late for this to be of any avail. Dr. Paul Gibier, who has treated at his institute here about thirty-five cases since last February, says that inoculations made after the appearance of the symptoms of hydrophobia are useless; although he has successfully treated one patient who had already begun to complain of tingling at the seat of the bite, which had been received about six weeks before. I understand that a sufficient donation has been offered Dr. Gibier to enable him to erect a properly equipped Pasteur Institute. The most recent statistics of this mode of treatment lead him to believe that the mortality may be reduced to absolutely nothing.

The ex-internes of our hospitals seem to have suddenly awakened to the advantages of forming themselves into associations, and this spring has witnessed the organization of two such—*i. e.*, the Alumni Association of Charity Hospital and that of the Mount Sinai Hospital. It is to be hoped that they will strive to equal the admirable record already made by the Bellevue Alumni. At a recent meeting of the latter Society, Professor A. L. Loomis discussed the relations of digitalis to cardiac disease. He believes digitalis to be the most reliable of all the so-called heart tonics; but that it requires exceptional skill and judgment to administer it efficiently. It should never be given so long as the compensatory hypertrophy is sufficient to maintain a good general circulation; but when the first signs of irregularity and failing strength are discernible, after careful and repeated examination, the drug should not be longer withheld. It is, he thinks, a mistake to give it in large doses, except in emergencies; and when the case seems to demand doses of more than five or ten drops of the tincture, he makes it a rule to insist upon the patient remaining in the recumbent position. A neglect of this precaution not infrequently leads to sudden and fatal syncope. His guide in the administration of digitalis is the quantity of urine excreted. If the quantity increases while the patient is taking the digitalis, the remedy is doing good; but if the quantity remains small or diminished it is an indication that the drug is not accomplishing the desired object. Where he wishes a tonic effect, he prescribes the tincture; but where large doses are required in cases of advanced cardiac insufficiency, or where it is desirable to produce diuresis, he prefers the infusion. Several of the members spoke of the large doses of digitalis that are sometimes tolerated, and Dr. Van Santvoord said that he knew of a case of pneumonia under the care of a homœopathic practitioner, where the tincture of digitalis had been administered in teaspoonful doses, the patient experiencing no disagreeable effects. Such a case as this is interesting, both on account of the tolerance exhibited by the patient and the disregard of the doctrine of infinitesimals displayed by this disciple of Hahnemann. Certainly, if this practitioner is a worthy representative of his clan, the homœopaths of this degenerate age need have no fears concerning the effect of the tariff reform upon the price of milk-sugar.

At the last meeting of the New York Academy of Medicine, Dr. George M. Sternberg briefly described some of his bacteriological researches in yellow fever, and exhibited a series of lantern slides showing photographic representations of many of the organisms which he has studied in connection with the subject. He said that when one considers the mode of distribution of the disease, and the great success which has attended the treatment of it simply by sanitary measures, it is difficult to resist the conclusion that yellow fever is due to a particular germ, which probably finds a favorable nidus in the fæces. Notwithstanding the fact that he undertook his researches with the full expectation of finding such a germ, no characteristic organism has been as yet discovered. It is interesting to note that throughout his investigations he has never met with anything resembling the cholera bacillus.

At the close of Dr. Sternberg's remarks, the President, Dr. Loomis, reminded the Fellows of the Academy that this was the last meeting to be held in the old building, which has been the home of the Academy for nearly twenty years. During this time its membership has nearly doubled, and these years represent an important epoch in its history; for it was during this time that the sections had come into life. It has been estimated that the collective work of the Academy is greater than the total of all the other medical societies in the State. It is true, he said, that the present building has been the scene of some pretty active skirmishes, both scientific and ethical, but he hoped that all petty jealousies would be left behind in the old building, and that the Fellows would enter their new home with the determination to do better scientific work, and to promote that sociability among the members which is the best prophylactic for those bickerings and petty squabbles, which too often interfere with the proper unity of the profession.

NEWS ITEMS.

The Pasteurian Institute in New York.—The work of Dr. Paul Gibier, in the prevention of hydrophobia, is constantly increasing, and he inoculates about twenty persons daily. The quarters in which his work was begun about four months ago have been outgrown, and a

removal to a larger permanent building must be made very soon. Already there have been offers of valuable property made to Dr. Gibier by citizens interested in promoting his work. One offer, that of a large dwelling surrounded by spacious grounds, and not far from Central Park, has many suitable features, and will probably become the future home of the Institute. It is stated that during the current summer Dr. Gibier will visit Europe, and that his place will be temporarily filled by one of Pasteur's principal assistants who will come to this country for the purpose.

The Italian Sanitary Council and the Sale of Nostrums.—The *British Medical Journal*, May 24, refers to the consequences in Italy of certain new laws for the suppression of the sale of patent medicines and other "specialties." The article says "the golden age of nostrums in Italy is past and the iron age has begun. No proprietary nostrums may now be offered for sale in that country unless they are favorably passed upon by the Superior Sanitary Council. Over 200 such articles have been rejected, and at a meeting on May 13th every article then before the Council was disallowed, and the grounds of this action were made public, namely, that all these rejected 'specialties' contained remedies which cannot be used with safety except under the direction of a medical man; that many of the articles were actually dangerous, and that many others possessed none of the virtues attributed to them."

The Origin of Hospitals.—In the *Lancet*, May 31, is an archæological summary of the most recent discoveries and researches regarding primitive institutions for the care and cure of the sick and wounded. Hospitals existed in India as early as the fifth century, B. C. In Ceylon, according to the English Orientalist, Turnour, King Pandukabhayo, established a hospital in his palace, and one of his successors, King Dutthagamini, in the second century before Christ, established eighteen such institutions in as many different localities, with a medical staff for each, and the remedial agents of those days. The Buddhist King, Asoka, as shown by Dr. Bühler, had, about the year 250 B. C., hospitals both for man and animals. There were doubtless many other founders of hospitals whose names are lost, but the *Lancet* thinks that their work was less important than that of the hospitals which developed in Rome and elsewhere as the result of the spread of Christianity.

Beaumont Hospital Medical College.—According to the *St. Louis Courier of Medicine* the corner-stone of the Beaumont Hospital Medical College, laid on May 31st, contained a copy of Lawson Tait's *Diseases of Women and Abdominal Surgery*, presented for the purpose by the author.

A Relief Fund for Dr. J. H. Douglas.—Dr. T. Gaillard Thomas has written to the *New York Medical Journal* a letter in which a plea is made on behalf of a physician who is ill and in want, Dr. J. H. Douglas, best known as the physician of General Grant, in his last illness. Dr. Douglas is now an inmate of the Presbyterian Hospital, of New York. Dr. Willard Parker may be addressed by those desiring to co-operate in the raising of a fund for the relief of their afflicted *confrère*.

American Otological Society.—The twenty-third annual meeting of the American Otological Society will be held on Tuesday, July 15th, at the Hotel Kaaterskill, Catskill Mountains. Papers will be read by Drs. C. H. Burnett, A. H. Buck, B. Alexander Randall, F. M. Wilson, Huntington Richards, S. Theobald, Charles A. Todd, O. D. Pomeroy and Lucien Howe.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JULY 1 TO JULY 7, 1890.

GARDINER, JOHN DE B. W., *Captain and Assistant Surgeon.*—Having been found incapacitated for active service by an Army Retiring Board, and having complied with Par. 12, S. O. 135, June 10, 1890, from this office, is, by direction of the Acting Secretary of War, granted leave of absence until further orders, on account of disability.—Par. 3, *S. O. 153, A. G. O., Washington, D. C.*, July 2, 1890.

ROBINSON, SAMUEL Q., *Captain and Assistant Surgeon.*—Is relieved from temporary duty at the U. S. Military Academy, West Point, New York, to take effect upon the arrival there of W. Fitzhugh Carter, Captain and Assistant Surgeon, and will report in person to the commanding officer Fort Du Chesne, Utah Territory, for duty, relieving Curtis E. Price, Captain and Assistant Surgeon. Captain Price, on being relieved by Captain Robinson, will proceed to Fort Wadsworth, New York Harbor, and report in person to the commanding officer of that post for duty, relieving Robert B. Benham, Captain and Assistant Surgeon. Captain Benham, on being thus relieved from temporary duty at Fort Wadsworth, will report in person, without delay, to the commanding officer Fort Hamilton, New York Harbor, for duty.—Par. 12, *S. O. 153, A. G. O., Washington, D. C.*, July 2, 1890.

By direction of the Acting Secretary of War, leave of absence for four months is granted JAMES P. KIMBALL, *Major and Surgeon*, to take effect when an officer of the Medical Department is assigned by his department commander to relieve him.—Par. 6, *S. O. 152, A. G. O., Washington, D. C.*, July 1, 1890.

By direction of the Secretary of War, the following named Assistant Surgeons (recently appointed, with the rank of First Lieutenant) will report in person to the commanding officers of the posts designated opposite their respective names:

KEEFER, FRANK R., Fort Leavenworth, Kansas.
RAYMOND, THOMAS U, Fort Sherman, Idaho.
SNYDER, HENRY D., Fort Reno, Indian Territory.
SMITH, ALLEN M., Fort Snelling, Minnesota.
HEYL, ASHTON B., Fort Niobrara, Nebraska Territory.

CLARKE, JOSEPH T., Fort Riley, Kansas.—Par. 6, *S. O. 151, A. G. O., Washington, D. C.*, June 28, 1890.

CORBUSIER, WILLIAM H., *Captain and Assistant Surgeon.*—Is relieved from duty at Fort Lewis, Colorado, and will report in person to the commanding officer Fort Wayne, Michigan, for duty.—Par. 7, *S. O. 151, A. G. O., Washington, D. C.*, June 28, 1890.

BALL, ROBERT R., *First Lieutenant and Assistant Surgeon.*—Is relieved from duty at Fort Riley, Kansas, and will report in person to the commanding officer Fort Spokane, Wash., for duty.—Par. 7, *S. O. 151, A. G. O., Washington, D. C.*, June 28, 1890.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF THE MEDICAL CORPS OF THE U. S. NAVY FOR THE TWO WEEKS ENDING JULY 5, 1890.

PAGE, JOHN E., *Assistant Surgeon.*—Ordered to Hospital, Mare Island, California.

KENNEDY, ROBERT M., *Assistant Surgeon*—Ordered to the League Island Navy Yard, Pennsylvania.

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

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